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GENERAL REPORT AND ANALYTICAL TABLES  
AND REPORTS FOR STATES AND  
SELECTED INDUSTRIES

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## INTRODUCTION AND GENERAL EXPLANATION.

**Scope of the report.**—The statistics for mines and quarries taken as part of the Fourteenth Decennial Census are presented in this volume. It contains (1) a general summary and analysis of the statistics; (2) general tables which bring together the principal statistics in convenient form; (3) a presentation of the principal statistics of the mining industries in the individual states; and (4) presentations of the statistics of the leading mining industries—anthracite and bituminous-coal mining, the petroleum and natural-gas industry, iron-ore mining, the mining of gold, silver, copper, lead, and zinc, stone quarrying, phosphate-rock mining, and gypsum mining.

In the summary of results for the United States the statistics of the 1919 census of mines and quarries are discussed and illustrated by tables and compared with the results of the censuses of 1909 and 1902; the geographic distribution of mining industries, the rank by value of products of states by relative position in the mining industries, and the rank by value of products of the principal mining industries in the United States and in each of the leading states are shown; the principal data on the character of organization of mining enterprises, on the scale of operations conducted by mining enterprises are analyzed; the statistics on persons engaged in the mining industries, and on the acreage of mineral land and other lands held by mining enterprises are summarized; and the data on the power used by the principal mining industries are presented. That section also includes statistics, not elsewhere presented in the volume, on mining in Alaska, Hawaii, and Porto Rico, and statistics on mining by governmental institutions in the United States.

The general tables are as follows: Table 1 compares the results of the census of 1919 with those of the census of 1909, showing for each year and for each industry the number of enterprises; number of mines, quarries, and wells; average number of wage earners employed; the aggregate horsepower used; the amount expended for salaries and wages, supplies and materials, fuel and purchased power, royalties and rents, and contract work; and value of products. It also shows the percentage of increase for all items except the number of enterprises and number of mines, quarries, and wells. Table 2 presents for each state the same statistics that are shown for the individual industries in Table 1. Table 3 presents by industries, for the United States as a whole, and for producing and nonproducing enterprises separately,

detailed statistics as to number of enterprises and mines, quarries, and wells, lands controlled, persons engaged in mining industries, capital invested, principal expenses of operation and development, value of products, and power used. Table 4 presents the same statistics by states. Table 5 shows by industries, and for producing and nonproducing enterprises separately, the number of wage earners employed on the 15th day of each month. Table 6 presents the same statistics by states. Table 7 presents by industries, and for producing and nonproducing enterprises separately, the kind and amount of fuels used. Table 8 presents the same information by states. Table 9 gives the number of enterprises in each industry by states, and shows producing and nonproducing enterprises separately.

The presentation for the individual states includes: (1) A comparison for 1919 and 1909 of the principal statistics for the producing mining enterprises for the state as a whole; (2) statistics showing the rank by value of products of the mining industries of the state, the character of organization of the mining enterprises for the state and for each industry, the size of mining enterprises by average number of wage earners for the state and for each industry, the prevailing hours of labor for the mining enterprises, and the number of wage earners employed each month; (3) the principal statistics in detail for each industry in the state that can be shown.

The presentations for each of the leading mining industries include statistics showing the progress of the industry by comparison of the results of the census of 1919 with those of previous censuses and also by comparisons based on the production statistics reported by the United States Geological Survey. They include statistical data on the geographic distribution of the industries, on land tenure, character of organization, scale of operation, persons engaged, and power used in mining enterprises. In addition, the presentation for each industry includes a general statistical table showing by states and by producing regions, in so far as possible without disclosure of individual operations, all available data in detail.

**Cooperation with the Geological Survey.**—The statistics on mines and quarries for the Fourteenth Decennial Census were collected by the Bureau of the Census in cooperation with the United States Geological Survey which collects and publishes annual statistics of mineral products.

In accordance with the cooperative agreement between the bureaus, two sets of schedules were provided for securing data on mining enterprises: (1) General schedules for all mines, quarries, and wells; (2) supplemental schedules for each of the mineral industries or classes of minerals included in the scope of the cooperative canvass. The general schedules for mines and quarries and wells followed substantially the form adopted for the census of manufactures with additional inquiries adapting that schedule to the mining industries. These additional inquiries related to the following subjects: Kind of beneficiating plant or process operated in connection with the mines; acreage of land controlled and form of tenure of mineral and other lands; technical employees; classification of wage earners by occupations; royalties paid; and the amount of expenses charged to development work.

The supplemental schedules contained inquiries in relation to quantity and value of products and data of a technical nature peculiar to each industry or class of minerals. These schedules followed substantially the forms used by the Geological Survey in its annual collection of statistics, with, however, some additions and modifications intended to bring the data in harmony with that developed by the general schedule.

Except in the case of the mineral-fuels, iron-ore, and phosphate-rock industries, for which the quantity of products was transcribed from the supplemental schedules to the general schedules, the supplemental schedules were used by the Bureau of the Census only for the purpose of classifying the general schedules according to mineral industry. The supplemental schedules were transmitted to the Geological Survey for tabulation.

**Scope of the census.**—Census statistics of mines and quarries and petroleum and natural-gas wells were compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of enterprises, and similar subjects. When use is made of the statistics for these purposes, it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

**Territory covered.**—The census of mines and quarries for 1919, taken in connection with the Fourteenth Decennial Census, covered the United States proper, also Alaska, Hawaii, and Porto Rico.

**Industries and enterprises canvassed.**—The Fourteenth Census covered all classes of mines, quarries,

and mineral milling or reduction works (not including smelters and refineries operated in connection with mines and quarries), and petroleum and natural-gas wells and natural-gas gasoline plants that were in operation during any portion of the year 1919. The canvass of mines, quarries, and petroleum and natural-gas wells covered both producing enterprises and those whose operations were confined to development work. Mines, quarries, or wells that were idle during the entire year 1919 were omitted from the canvass and enterprises producing less than \$500 worth of products or, in the case of bituminous-coal mines, producing less than 1,000 tons of coal were also omitted. Operations confined to development work on which expenditures amounted to less than \$5,000 during the calendar year 1919 were likewise omitted. The following operations were specifically omitted: The mining of placer gold and the hunting for precious stones by itinerant individuals and miners employing no help; prospecting; the digging or dredging of sand and gravel; the digging and preparation of peat; the digging and preparation of marls, both calcareous and greensand; the production of natural mineral waters; and mining of minor and rare minerals, unless conducted as part of an established industry producing other mineral products.

**Relation of the statistics of mines and quarries, etc., and of manufactures.**—The census of the mining industries (including the quarrying and the petroleum and natural-gas industries which are for convenience spoken of as mining industries) was taken coincidentally with the census of manufactures for 1919.

Sharp distinction between mining operations and manufacturing operations which prepare the mine product for use is impossible in the case of many plants. Mining ceases as soon as substances have been removed from the earth, and all the processes thereafter performed on those substances are in the nature of manufacturing. Such distinction can not be made strictly for all census statistics, and not at all without undue dependence on estimates. Therefore, the census of mines and quarries includes with mining those processes conducted at or near the mine by the mine operator for the purpose of preparing the crude mine product for use or for market. Such operations, designated beneficiating processes, include crushing; cleaning by washing or screening; grading and sorting by size; separation from associated worthless material; concentration; burning; calcining or roasting; grinding; and cutting and polishing. Although much of such work is theoretically in the nature of manufacture, it is not ordinarily considered as manufacture by the operators, especially when of simple character and conducted by them at the mines or quarries. For

the purposes of the Thirteenth and Fourteenth Censuses such business, as a whole, was treated as pertaining to the mining and quarrying industries.

Some of these industries are also included in the statistics of manufactures for two reasons: First, because similar processes are conducted strictly as manufacturing on purchased raw materials by concerns which do not operate mines and quarries; therefore, a complete review of manufacturing industries in these lines requires inclusion of those operations carried on by concerns that also do mining. Second, because the censuses of manufactures for 1904, 1909, and 1914 included these industries they are, therefore, included in the 1919 census for the sake of complete comparability.

The treatment of natural gas or so-called "casing-head gas" for the extraction of gasoline has been included with the statistics on mining as a part of the petroleum and natural-gas industries, for the reason that a large part of this industry has been conducted by the operators of the gas-producing wells, and in connection with their business of gas distribution. The trend in this new industry seems, however, to indicate that the gasoline-extraction business is to be more generally conducted by separate enterprises. The complete segregation of the 1919 statistics relating to the production of natural-gas gasoline as a distinct industry was not possible because many reports were consolidated with reports on well operations.

On the other hand, some mining industries have been treated as a part of manufacturing industries and have not been included in any way in the statistics of mines and quarries. This was chiefly for the reason that the manufacturing phases are predominant in these industries, and accuracy in reporting could not be secured by estimated segregation of the data for mining from those for manufacturing. There was also the further reason of preserving comparability between the censuses of manufactures for the years 1904, 1914, and 1919. This class of operations excluded from the statistics for mines and quarries includes chiefly: The mining of clay and the manufacturing of clay products at the same locality when carried on in the same establishment; the quarrying of limestone and the burning of the stone into lime carried on in the same establishment; the quarrying of limestone, shale, and cement rock, and the manufacture of these into Portland cement by the same establishment; the mining of salt or the raising of brines and their conversion into commercial salt.

The actual practice of the Bureau of the Census at the Fourteenth Census with respect to industries on the border line between mining and manufacturing has been as follows:

1. In the brick and tile, pottery, cement, and lime industries the digging of clay and the quarrying of

stone are a simple and minor part of the business in which much the greater part of the activities are of a manufacturing character. Statistics for establishments in these industries, engaged in both mining and manufacturing, are included only in the census of manufactures.

2. In the coal and coke industry complete segregation was made of all coal-mining statistics and coke-manufacturing statistics. If the operating establishment did not keep separate accounts by means of which absolute segregation of data could be obtained, an estimated segregation was made.

3. In the copper and lead and zinc industries mining statistics were completely segregated from manufacturing, i. e., smelting and refining, by estimate, as for coal and coke, if necessary.

4. On the other hand, in other industries in which establishments conducted both mining or quarrying operations and more or less elaborate manufacturing operations, segregated reports for each class of operations were secured whenever possible. When this was not possible the data for each such establishment as a whole has been included in both the census of mines and quarries and also in the census of manufactures. Industries in this category include basalt or trap rock, granite, limestone, marble, sandstone, and slate quarrying, the mining of abrasive materials, feldspar, fuller's earth, graphite, gypsum, mineral pigments, quartz or silica, talc and soapstone. In the stone-quarrying industries the establishments included in both the mining and manufacturing statistics were chiefly producers of crushed and ground stone and were classified by the census of manufactures as in the roofing and paving-material industries. There were also included, moreover, in both sets of statistics full data on a few establishments cutting and dressing stone for construction and other purposes which did not report separately for mining and for manufacturing, and for which no basis for segregation was available. In the other industries, above enumerated, the data on most of the establishments which mined and prepared their product by processes of grinding, calcining, etc., necessarily were included in both the mining and manufacturing tabulations.

The practice of the Census Bureau at the Fourteenth Census with respect to industries on the border line between mining and manufacturing differed from that at the preceding census by entirely excluding from the mines and quarries statistics data on coke making and smelting and refining, and further, in that in other border-line industries the effort was made to segregate for separate tabulations, so far as possible, the statistics relating properly to mining and to manufacturing. Thus, the amounts which have been included in the statistics for mines and quarries and for manufactures have been reduced to a minimum. Had such duplica-



tion in the coal and coke and mining and metallurgical industries alone been eliminated in the 1909 Census, the amounts included in both sets of statistics for that year would have been reduced by approximately 85 per cent—that is, from involving approximately 18 per cent to less than 2 per cent of the total value of products reported by the census of mines and quarries. As duplication in other industries has also been materially reduced in the 1919 statistics, it is evident that the remaining duplication can not amount to as much as 2 per cent of the total value of products reported by the census of mines and quarries and one-tenth of 1 per cent of the total value of products reported by the census of manufactures. For this reason no special tabulation has been made to determine the precise extent of duplication of statistics in 1919.

**The enterprise.**—As used in the text and tables the term enterprise represents one or more mines and quarries, well or groups of wells, or natural-gas gasoline plants all within the same state operated under a common ownership or unified control, or for which only one set of books of account was kept, and for which a single report was secured. It may cover plants at several localities within the same state. If plants under unified control were not all located within the same state, separate reports were secured in order that statistics for the several enterprises thus defined might be included in statistics for the states in which they were located. The enterprise is further defined as being limited to a single industry. Separate reports were secured with very few exceptions for each industry conducted by an operator, and only where combined reports on two or more industries could not be separated does a single enterprise cover more than one industry. (See below—"Classification by industries"). The number of enterprises shown in the tables is equivalent to the number of individual reports tabulated.

**Number of mines, quarries, wells, and plants.**—Under these designations is given the count of the number of mines, quarries, wells, and gasoline plants shown by the returns received. The unit of enumeration for mines and quarries was difficult to define. As a rule each group of workings at a given locality in which operations were conducted as a unit or were unified by common management or joint handling of some part of the mining process, was considered as a single mine or quarry. Many individual openings, therefore, were not counted as individual mines. The total number reported comprised those in productive operation or in the course of development during the year 1919. For petroleum and natural-gas wells the individual wells were counted and the total number productive December 31, 1919, is the number generally used in this report. The number of natural-gas gasoline plants is the total number reported in operation during the year.

**Classification by industries.**—The enterprises reported have been grouped by industries according to the kind of products. Only a few enterprises made consolidated reports covering more than one kind of product. In such cases classification was determined by the product of chief value.

**Influence of increased prices.**—In comparing figures for cost of supplies and materials, and value of products, with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase or decrease in the volume of business.

**Persons engaged in the industries.**—The following general classes of persons engaged in the mines and quarries and petroleum and natural-gas industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) technical employees, (5) clerks (including other subordinate salaried employees), and (6) wage earners. In the reports for the census of 1909 the fourth class, technical employees, was not distinguished and was probably included with other salaried employees.

The number of persons engaged in each industry, segregated by occupation, sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date was not a representative day report for another date was requested.

The number of employees other than wage earners thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. The average number of wage earners has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by occupation, sex, and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained is generally less than the number of wage earners reported for the representative day and more nearly approximates the number of wage earners that would be required to perform the work done if all were continuously employed during the year. The importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The total number of wage earners reported for the representative day is given in the table of detailed statistics for the industries, in connection with the classification of wage earners by occupation which was made for the representative day. This number is not used in any other way because it is believed to be less significant than the average number. The number reported for the representative day, on account of the unavoidable variations of date, involves more or less duplication of persons working in different industries at different times; does not represent the total number employed in all industries at any one time; and gives undue weight to seasonal industries as compared with industries in continuous operation.

**Prevailing hours of labor.**—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed by each enterprise. Occasional variations in hours in an establishment for one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each enterprise are therefore counted in the class within which the enterprise itself falls. In most enterprises, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

**Capital.**—The instructions on the schedule for securing data relating to capital were as follows: "The answer should show the total amount of capital, owned and borrowed, invested by the operator in the enterprise on the last day of the business year reported. *Do not* include securities and loans representing investments in other enterprises." These instructions were identical with those employed at the census of 1909. The reports received in respect to capital, however, at both censuses, have in so many cases been defective that the data compiled are of value only as indicating very general conditions. While there are some enterprises maintaining accounting systems such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

**Expenses.**—The expenses reported in the census of 1919 include salaries and wages; the cost of supplies, materials, and fuels, including the freight on these; cost of power purchased; the cost of contract work; royalties and rents paid; and taxes paid or assessed. The census of 1909 reported in addition to the items of expenses covered by the present census, all other items of expense incident to that year's business except interest on indebtedness, dividends, and allowances for depreciation.

**Salaries and wages.**—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not

undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, in different occupations, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates rapidly and irregularly in every industry, and in some to a very great extent from day to day. The Census Bureau figures for wage earners, as already explained, are averages based on the number employed on the 15th day of each month and, although representing the number, according to the pay rolls, to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

**Supplies and materials, fuel, and power.**—Statistics as to supplies and materials, fuel, and power relate to the cost of these used during the year, which may be more or less than the amount purchased during the year. The term "supplies and materials" covers mine, mill, quarry, and well supplies, and mineral or natural gas purchased for treatment, resale, or distribution.

**Contract work.**—The amounts reported under this head include expenditures for both productive operations and those prosecuted for development only; they are in effect indirect expenditures for salaries, wages, supplies and materials, fuel, and power.

**Royalties and rents.**—The amounts given under this head represent the payment to fee holders, or the value of share of product credited to fee holders, for mineral output from leased land, and also rents paid for plants, equipment, and privileges or easements.

**Taxes.**—The taxes include all Federal, state, county, and local taxes. The data compiled with respect to Federal taxes are very defective, largely for the reason that many mining corporations are engaged in other business and have sources of income other than from mining and do not pay capital stock, income, and excess-profits taxes on mining separately. For many of these corporations no data have been obtained; for others satisfactory segregation of mining could not be made.

**Expenditures for development work.**—The expenses reported, as defined above, include costs of both productive operation and development work. That part of the expenses for salaries, wages, contract work, supplies and materials, fuel, and power which was credited by the mine operators to development is shown as expenditures for development work. In the statistics on producing enterprises the part of expenses ascribed to development is relatively small, but in the statistics for nonproducing enterprises it is a large part of the total of all expenses reported.

**Value of products.**—The amounts given under this heading represent the selling value at point of production, or f. o. b. at point of shipment, or such other value as may represent the net value or amount received for the 1919 product under the terms by which it was disposed of, and also includes the value at point of production of products used by the operating company.

The total value of products reported includes, in addition to the value of the principal mineral produced as indicated by the industry designation, also the value of other mineral or other products, and amounts received for power sold or work or miscellaneous services for other enterprises. It is to be noted, particularly with respect to the industries producing metal-liferous ores, that amounts received by the producers, i. e., the value of products as reported by the census, stand in no readily discernible relation to quantity and market value of products recoverable from the materials mined. The census figures on the value of products for the copper-mining industry, for example must not be taken as value of copper produced, but only as the value at the mine of ores, concentrates, etc.

**Quantity of products.**—Statistics on quantities of mineral products are presented only in the special reports on the several mining industries. They are for the most part, and except as explained in those special reports, the statistics which have been tabulated by the United States Geological Survey. More detailed and elaborate statistics on quantities of all mineral products will be found in the reports of the United States Geological Survey.

**Differences between products reported by the Bureau of the Census and the Geological Survey.**—The statistics showing the quantities and values of mineral products were obtained by the Bureau of the Census in cooperation with the Geological Survey, but the two bureaus followed different methods in compiling and presenting these statistics. Between these methods there is—first, the fundamental difference that the Bureau of the Census endeavors to present the total actual output and its value to the producer for the calendar year, whereas the Geological Survey reports “marketed production,” sales, or shipments, including the amount used by the producers; the two sets of statistics may therefore be quite different; and second, the Geological Survey shows separately the quantity and value of each mineral product, whereas the Bureau of the Census presents the value of products of each mining industry or group of mining enterprises, classified for purposes of tabulation as an industry. Thus the Bureau of the Census figures for an industry include the value of some products not indicated by the industry designation, whereas the Geological Survey tabulates the value of each product under its proper designation, irrespective of its source.

For example, the crude or mine products of a metal-liferous-lode-mining enterprise include varying combinations of the metals gold, silver, copper, lead, and zinc, and sometimes other metals. The Bureau of the Census classifies each of such enterprises according to the metal of predominant worth in ores produced, and tabulates the amount received by the producer for ore and concentrates, etc., as the total value of products in the industry classification to which the particular enterprise is assigned. The Geological Survey, on the other hand, presents separately the quantity and value of the several metals recoverable from ores, etc. Therefore the statistics compiled by the two bureaus for the gold, silver, copper, lead, and zinc-mining industries are not comparable. Similar differences in presenting results apply also to the rare-metals-mining industry. Again, the total value of all products of the mica mines is not identical with the value of the output of mica, but, as reported by the Bureau of the Census, includes the value of some feldspar or other products mined in connection with the principal product.

Another cause contributing to the difference in the reports of the two bureaus is the fact that in nearly all industries some enterprises report raw or crude mine or quarry products, and other enterprises in the same industry report milled, dressed or otherwise beneficiated products. Except where a distinct and separate report on the finishing operations was obtained for inclusion in the tabulations by the census of manufactures all operations involving milling, dressing, or other beneficiation were included in the tabulation of the census of mines and quarries, as explained in the paragraphs on the relation between statistics of mines and quarries and of manufactures. The Geological Survey did not in all cases follow the same rules, sometimes reporting only raw products where the Bureau of the Census reported finished products, or vice versa. Thus, the Geological Survey reports value of gypsum in all finished gypsum products, whereas the Bureau of the Census reports value of gypsum rock and the value of only such gypsum products as were reported in a schedule inseparably combining mining and milling operations. On the other hand, the Geological Survey reports only the value of crude magnesite produced, whereas the census of mines and quarries tabulates the value of both crude and calcined magnesite as reported by the producers.

Another difference of considerable moment in the minor industries, but affecting also all industries, is that the Geological Survey included in its tabulations products reported by establishments not included in the census tabulations. These were of four kinds: Governmental, penal, and eleemosynary institutions which are omitted from the general tables presented

by the census of mines and quarries; small enterprises not within the scope of the census; nonproducing enterprises which marketed or used previously mined product; and enterprises from which the Bureau of the Census was unable to obtain financial and other data called for by its schedule, or could secure only a defective report which was not tabulated, whereas the Geological Survey was able to obtain the desired information on product.

In addition to the foregoing general differences in method, there are differences peculiar to certain industries. Thus, in the natural-gas industry the Bureau of the Census used only reports of producing or well-operating companies, whereas the Geological Survey made use of and to some extent included in its statis-

tics the reports of distributing companies which purchased their natural gas from producing companies. In the sandstone industry the Bureau of the Census includes enterprises which crushed the stone to sand at the quarries, while the Geological Survey includes this production under sand and gravel only. Other special differences which were significantly large for 1919 are explained in footnotes appended to the following table. This table shows the value of products as given in the general tables of this report, and as published by the Geological Survey in its report "Mineral Resources of the United States, 1919." The differences existing between the two reports are shown by amount and by the per cent these amounts are of the total reported by the Geological Survey.

TABLE SHOWING DIFFERENCES IN VALUE OF PRODUCTS AS REPORTED BY THE BUREAU OF THE CENSUS IN "MINES AND QUARRIES, 1919," AND BY THE GEOLOGICAL SURVEY IN "MINERAL RESOURCES OF THE UNITED STATES, 1919."

INDUSTRY.	Report of Bureau of the Census.	Report of Geological Survey.	DIFFERENCE. <sup>1</sup>		INDUSTRY.	Report of Bureau of the Census.	Report of Geological Survey.	DIFFERENCE. <sup>1</sup>	
			Amount.	Per cent.				Amount.	Per cent.
<b>FUELS:</b>					<b>MISCELLANEOUS:</b>				
Coal, anthracite.....	\$384,084,142	\$384,926,950	-\$842,808	-0.2	Abrasive materials....	\$721,728	\$1,484,915	-\$763,187	-51.4
Coal, bituminous.....	1,145,977,585	1,190,816,013	-14,638,448	-1.3	Asbestos.....	249,839	251,265	-1,426	-0.6
Petroleum and natural gas..	* 931,798,423	* 956,951,063	-25,157,640	-2.6	Asphalt.....	749,620	682,889	+66,731	+9.7
<b>METALLIFEROUS ORES:</b>					Barytes.....	1,532,245	* 1,727,822	-195,577	-7.8
Iron.....	218,217,905	* 197,296,282	+20,921,623	+10.6	Bauxite.....	2,190,279	2,201,747	-11,468	-0.6
Copper.....	( <sup>2</sup> )	( <sup>2</sup> )			Chromite.....	105,841	129,302	-23,461	-18.1
Gold and silver, lode mines..	( <sup>2</sup> )	( <sup>2</sup> )			Clay.....	10,080,238	* 7,080,081	+2,999,157	+42.2
Gold, placer mines.....	( <sup>2</sup> )	( <sup>2</sup> )			Feldspar.....	584,290	585,200	-910	-0.2
Lead and zinc.....	( <sup>2</sup> )	( <sup>2</sup> )			Fluorspar.....	3,334,830	3,525,574	-190,744	-5.4
Manganese.....	2,188,312	* 3,340,355	-1,151,043	-34.7	Fuller's earth.....	2,019,223	1,958,829	+60,394	+11.6
Quicksilver.....	1,808,484	1,933,560	-130,076	-6.7	Graphite.....	869,403	10,778,857	-9,909,454	-56.7
Rare metals.....	( <sup>2</sup> )	( <sup>2</sup> )			Gypsum.....	6,805,040	15,727,907	-8,922,867	-73.8
<b>STONE:</b>					Magnesite.....	2,189,571	11,248,415	-9,058,844	-78.1
Basalt.....	9,657,977	8,944,680	+713,291	+8.0	Mica.....	607,025	541,651	+65,374	+12.1
Granite.....	18,279,345	19,345,714	-1,066,369	-5.5	Millstones.....	64,631	66,972	-2,341	-3.5
Limestone.....	52,943,924	53,171,701	-227,777	-0.4	Mineral pigments.....	480,768	( <sup>2</sup> )		
Marble.....	4,307,012	* 3,042,297	+1,264,715	-45.3	Phosphate rock.....	10,300,193	11,501,268	-1,201,075	-11.1
Sandstone.....	10,684,069	* 6,283,842	+4,400,227	+102.2	Pyrite.....	2,408,648	2,553,172	-144,524	-5.8
Slate.....	5,720,792	6,030,648	-309,856	-5.1	Silica.....	371,638	373,571	-1,933	-0.5
					Sulphur.....	17,935,882	10,252,000	+7,683,882	+75.0
					Talc and soapstone....	2,302,303	2,352,675	-50,372	-2.1

<sup>1</sup> The plus (+) or minus (-) signs indicate the amounts by which the Bureau of the Census figures exceed or fall below those published by the Geological Survey.

<sup>2</sup> Includes natural-gas gasoline. Difference due to different bases of tabulation.

<sup>3</sup> Differences partly due to different classifications of ores as manganiferous iron ores and iron ores.

<sup>4</sup> Comparable statistics not available as the Bureau of the Census reports net value to producers of mine products, and the Geological Survey reports the gross value of metals in ores produced.

<sup>5</sup> Includes value of dressed and finished products for which the Bureau of the Census reports only the value of rough stone.

<sup>6</sup> Not including value (approximately \$5,000,000) of sandstone classified as such by the Bureau of the Census, but crushed and ground by the producers and therefore classified as sand by the Geological Survey.

<sup>7</sup> Total value of abrasive materials as reported by the Geological Survey is \$2,887,902 from which has been deducted the value of millstones separately reported by the census of mines and quarries, and the value of grindstones and pulpstones reported by the census of manufactures; the balance—\$1,484,915—includes the value of a relatively large amount of other material not included by the census of mines and quarries with abrasive materials.

<sup>8</sup> Includes, in addition to amounts reported by producers, data from other sources covering output by small producers not canvassed.

<sup>9</sup> Only raw clay sold as such and does not include production by clay-products manufacturers who made separate reports to the census of mines and quarries.

<sup>10</sup> Includes value of manufactured products which are not included in the value reported by the census of mines and quarries.

<sup>11</sup> Based on valuation of crude magnesite, whereas the census of mines and quarries includes the value of crude and calcined products as reported by the producer.

<sup>12</sup> Not reported.

<sup>13</sup> Marketed production without regard to large output held in stocks.

**Cost of mining and profits.**—The census data do not show the entire cost of mining and well operations, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest; rent of offices and buildings other than those connected with mine and quarry operation; insurance, selling and other sundry expenses.

**Lands controlled.**—The inquiry on land tenure was confined to land pertaining to the mining or well opera-

tions covered by the report. In many of these, however, land held in reserve for future development and for speculative or other purposes not pertaining to mining was included in the returns, and also a large number of more or less unsatisfactory estimates were included. Nevertheless, it is believed that the data presented reflect fairly the conditions as to land tenure in the mining industries, and correctly show the order of magnitude of land holdings pertaining to mining enterprises.

**Power used.**—The item, aggregate horsepower, represents the horsepower of prime movers used by the enterprises for generating power plus the horsepower of motors, principally electric, and of other equipment operated by power purchased from other concerns. It does not cover the power of electric motors taking their current from generators operated by prime movers reported by the same enterprise (such equipment is reported separately), because its inclusion would obviously result in duplication. The figures on power represent the rated capacity of the engines,

motors, etc., and not the amount of power in actual daily use.

**Fuel.**—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, wood, fuel and other heavy oils, gasoline or other volatile oils, and natural gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

## SUMMARY OF RESULTS FOR THE UNITED STATES.

### PRINCIPAL STATISTICS.

Summary for continental United States and outlying possessions: 1919.—Table 1 presents the results of the Fourteenth Census which relate to the mining industries in 1919 and shows the principal statistics for all mines and quarries and petroleum and natural-gas

wells within the area of enumeration. This area included, in addition to continental United States, the outlying territories of Alaska, Hawaii, and Porto Rico. The figures here given include nonproducing as well as producing mines, quarries, and petroleum and natural-gas enterprises, and constitute the most general summary of results of the canvass.

TABLE 1.—SUMMARY OF PRINCIPAL STATISTICS: 1919.

	Total.	Continental United States.	Alaska.	Hawaii.	Porto Rico.
Number of enterprises.....	22,361	21,997	346	5	13
Number of mines and quarries.....	14,802	14,417	367	5	19
Number of petroleum and natural-gas wells.....	257,081	257,073	8		
Number of natural-gas gasoline plants.....	1,115	1,115			
Persons engaged.....	1,088,444	1,084,796	3,267	155	226
Proprietors and firm members, total.....	22,709	22,165	593	4	17
Number performing manual labor.....	5,783	5,272	505		6
Salaried employees.....	75,688	75,437	199	6	26
Wage earners (average number).....	981,987	987,184	2,475	145	183
Wage earners Dec. 15, or nearest representative day.....	1,100,186	1,096,458	13,379	140	209
Above ground.....	389,523	386,932	2,242	140	209
Below ground.....	710,663	709,526	1,137		
Power used (aggregate horsepower).....	6,816,814	6,786,475	29,979	325	35
Capital.....	\$7,225,446,992	\$7,108,623,496	\$116,626,441	\$112,882	\$84,173
Principal expenses.....	2,556,682,424	2,545,925,350	10,493,020	171,850	92,204
Salaries.....	151,820,643	151,272,451	539,076	5,533	9,583
Wages.....	1,309,665,507	1,304,409,342	5,010,611	89,365	56,279
Supplies and materials.....	531,688,470	528,553,639	2,789,755	34,423	10,653
Cost of ore, coal, and natural gas purchased as material or for resale.....	35,905,352	35,905,352			
Fuel and purchased power.....	124,610,053	123,509,588	1,080,348	14,550	6,557
Royalties and rents.....	176,478,995	176,123,858	314,066	26,282	8,739
Taxes.....	141,878,154	141,567,734	307,390	1,687	1,343
Contract work.....	82,090,872	82,230,098	457,774		
Value of products.....	3,174,507,462	3,158,463,966	15,634,801	250,538	158,157

<sup>1</sup> For Alaska a report for Sept. 15 was requested.

Less than 2 per cent of the total number of enterprises reported and less than one-third of 1 per cent of the persons engaged in the mining industries were in Alaska. The mining operations in Hawaii and Porto Rico were insignificant. The value of products of the mining industries in the outlying territories was approximately one-half of 1 per cent of the aggregate for the United States and its territories. Owing to the fact that there were few mining enterprises in Alaska, Hawaii, and Porto Rico and that the operations conducted by them were relatively unimportant, and to the additional fact that the canvass made in the territories was somewhat different in scope and form of inquiry from the canvass made in continental United States, the discussion and presentation of statistics relating to mining operations are confined in this section of the report, except in Table 1, to the data reported for the continental United States (referred to simply as the United States). The statistics for Alaska are presented in a separate section relating to that territory whereas those for Hawaii and Porto Rico are presented only in the preceding table.

**Principal statistics for producing and nonproducing enterprises: 1919.**—At the Fourteenth Census 21,280 producing mining enterprises were reported for the

United States. These employed an average of 981,560 wage earners, used power equipment rated at 6,750,000 horsepower and had invested capital amounting to approximately \$7,000,000,000. The principal expenses of these enterprises in 1919 amounted to more than \$2,500,000,000, of which \$311,000,000 was for development work, and the products were valued at more than \$3,158,000,000. The census also reported 717 nonproducing enterprises which, in 1919, employed an average of 5,624 wage earners, had invested capital amounting to \$153,000,000. The principal expenses of this class of enterprises amounted to over \$25,000,000, of which nearly \$23,000,000 was for development work. Table 2 compares the principal statistics for producing and nonproducing enterprises in the United States and shows the per cent which the amount of each item reported for nonproducing operations is of the total. The most satisfactory index of the relative importance of the two classes of enterprises is the average number of wage earners employed, the figures for nonproducing enterprises representing six-tenths of 1 per cent of the total. It will be seen that for 1919 nonproducing enterprises, that is, those whose activities were limited to development or exploration in anticipation of productive operations, were relatively unimportant.



TABLE 2.—PRINCIPAL STATISTICS, PRODUCING AND NONPRODUCING ENTERPRISES: 1919.

	All enterprises.	Producing enterprises.	NONPRODUCING ENTERPRISES.	
			Number or amount.	Per cent of total.
Number of enterprises.....	21,997	21,280	717	3.3
Number of mines and quarries.....	14,417	13,844	573	4.0
Number of petroleum and natural-gas wells.....	257,673	257,673		
Number of natural-gas gasoline plants.....	1,115	1,115		
Persons engaged.....	1,084,796	1,077,675	7,121	0.7
Proprietors and firm members.....	22,155	21,918	237	1.1
Number performing manual labor.....	5,272	5,245	27	0.5
Salaried employees.....	75,457	74,197	1,260	1.7
Wage earners (average number).....	987,184	981,560	5,624	0.6
Wage earners, Dec. 15, or nearest representative day.....	1,096,458	1,088,189	8,269	0.8
Above ground.....	388,932	382,768	6,166	1.1
Below ground.....	700,526	705,423	5,103	0.6
Power used (aggregate horsepower).....	6,786,475	6,723,785	62,690	0.9
Capital.....	\$7,108,623,406	\$6,955,466,831	\$163,156,665	2.2
Principal expenses:				
Salaries.....	151,272,451	149,328,985	1,943,466	1.3
Wages.....	1,304,409,342	1,295,936,220	8,473,116	0.6
Supplies and materials.....	528,853,639	519,593,676	9,259,963	1.8
Cost of ore, coal, and natural gas purchased as material or for resale.....	35,905,352	35,905,352		
Fuel and purchased power.....	123,509,538	122,105,980	1,403,558	1.1
Royalties and rents.....	176,129,858	175,293,984	835,874	0.5
Taxes.....	141,567,734	140,993,626	563,108	0.4
Contract work.....	82,239,098	79,380,177	2,858,921	3.5
Expenditures for development (included in the above items).....	334,015,255	311,276,508	22,738,757	6.8
Value of products.....	\$3,158,463,966	\$3,158,463,966		

Although of minor importance the data relating to nonproducing enterprises are necessarily included in a complete canvass of mining activities, but a distinction between nonproducing and producing enterprises and a separate presentation of data relating to them is necessary to preserve the proper balance between the various items reported, and especially to keep the figures in regard to production in proper relation to figures on various factors of operation, such as the number of persons employed, power used, and expenses of operation, etc. For purposes of comparison, moreover, especially between states, industries, or censuses, it is necessary to confine the statistical presentations and discussions to the data for producing enterprises. Therefore, as well as because of the small importance of nonproducing activities in 1919, the remaining text and tables in this section will deal only with producing enterprises.

**Principal mining industries.**—In Table 3 the principal mining industries in 1919 are ranked according to value of products. This table shows the number of enterprises in each industry, the average number of wage earners employed, and the value of products with the per cent distribution for the last two items.

Statistics are presented for 12 industries which in 1919 had products exceeding \$10,000,000 in value. These 12 industries contributed 98 per cent of the total value of products of the mining industries and employed 97.6 per cent of the total average number of wage earners engaged in producing enterprises.

Statistics are also given for five other mining industries having products between \$4,000,000 and \$10,000,000 in value. The 17 industries shown separately in table employed 98.9 per cent of the total average number of wage earners in productive mining enterprises, and contributed 99.2 per cent of the value of products of the mining industries.

TABLE 3.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.
		Average number.	Per cent distribution.	
All industries.....	21,280	981,560	100.0	\$3,158,463,966
Coal.....	6,890	603,170	70.6	1,510,061,707
Anthracite.....	254	147,372	15.0	364,084,142
Bituminous.....	6,636	545,798	55.6	1,145,977,565
Petroleum and natural gas.....	9,814	92,205	9.5	931,793,423
Iron ore.....	290	45,741	4.7	218,217,905
Copper.....	195	43,717	4.5	181,258,087
Lead and zinc.....	432	21,884	2.2	75,579,847
Gold and silver, lode mines.....	740	15,436	1.6	58,832,330
Limestone.....	895	22,069	2.2	52,943,624
Granite.....	358	8,049	0.8	18,279,345
Sulphur.....	4	1,129	0.1	17,935,882
Sandstone.....	255	4,287	0.4	10,684,969
Phosphate rock.....	48	4,873	0.4	10,309,198
Clay.....	345	5,453	0.6	10,086,298
Basalt.....	163	3,336	0.3	9,657,977
Gold, placer mines.....	112	1,380	0.1	9,368,561
Gypsum.....	47	2,191	0.2	6,805,940
Slate.....	101	3,513	0.4	5,720,792
Marble.....	48	1,732	0.2	4,397,912
All other.....	543	10,895	1.1	26,539,369

Coal mining far outranked all other industries in importance. In 1919 it contributed nearly one of the total value of products reported, and it furnished occupation to more than 70 per cent of all the wage earners employed by producing mining, quarrying, and well operations. Anthracite mines furnished approximately one-fourth and the bituminous coal mines three-fourths of the total value of coal produced. The anthracite mines employed only a little more than one-fifth of the average number of wage earners while bituminous mines employed four-fifths of the number. The other industry producing mineral fuel—petroleum and natural gas—ranked second in importance in value of products, with nearly three-tenths of the total for the United States. This industry also ranked second in the number of wage earners employed which number was, however, less than one-tenth of the total for the United States.

The industries next in importance on the basis of the value of products, in the order named, were mining of iron ore, copper ores, lead and zinc ores, and gold and silver ores. The quarrying of limestone which ranked next to gold and silver mining in value of products, outranked both lead and zinc and gold and silver mining in the number of wage earners employed. Taken collectively, the stone-quarrying industries—limestone, granite, sandstone, basalt, slate, and marble—ranked fifth, that is, next after copper mining.



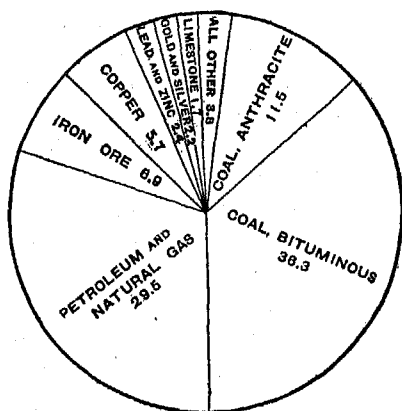
# SUMMARY OF RESULTS.

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both the number of wage earners employed and value of products.

The relative importance of the value of products of the several mining industries in 1919 are shown graphically by the diagram following.

PERCENTAGE DISTRIBUTION OF VALUE OF PRODUCTS, BY INDUSTRIES: 1919.



**By-products.**—The values of products given in the foregoing table and discussion include, in addition to the values of the minerals indicated by the name of the industry, the value of by-products. The term "by-products" is here used to designate collectively mineral and other products and the receipts for custom milling or other processes, for power sold, and for work or miscellaneous services furnished other enterprises, all of which were incident to the production of the principal mineral product.

Table 4 shows the value of the different classes of by-products for all industries combined and for each industry separately. Table 5 shows the value of the different classes of by-products reported for the United States and for each state separately. Table 6 shows the various by-products, the number of states, enterprises, and industries reporting each by-product.

TABLE 4.—VALUE OF BY-PRODUCTS, BY CLASSES, FOR EACH INDUSTRY: 1919.

INDUSTRY.	Total.	Mineral.	Not specified.	Custom milling, etc.	Power sold and work or miscellaneous services for other enterprises.
All industries.....	\$9,569,113	\$2,153,489	\$490,684	\$1,110,265	\$5,814,675
Coal:					
Anthracite.....	139,368		8,750		130,618
Bituminous.....	1,654,918	489,831	6,194		1,161,893
Petroleum and natural gas.....	3,095,608				3,095,608
Iron ore.....	268,594	150,750	7,134		110,704
Copper.....	995,982	5,433		271,897	718,652
Lead and zinc.....	325,827	83,706	99,338	41,484	101,299
Gold and silver, lode mines.....	1,022,013	90,734	1,201	793,189	136,889
Gold, placer mines.....	69,241	67,675		1,000	566
Stone:					
Limestone.....	976,407	589,884	148,814		237,709
Granite.....	31,728		0,250		25,478
Sandstone.....	12,535		400		12,135
Basalt.....	227,449	33	190,646		36,770
Slate.....	738				738
Marble.....	12,059	12,059			

TABLE 4.—VALUE OF BY-PRODUCTS, BY CLASSES, FOR EACH INDUSTRY: 1919—Continued.

INDUSTRY.	Total.	Mineral.	Not specified.	Custom milling, etc.	Power sold and work or miscellaneous services for other enterprises.
Abrasive materials.....	\$17,038	\$16,344			\$694
Barytes.....	18,316	18,316			
Clay.....	373,657	349,054	\$4,535		20,068
Feldspar.....	8,788	2,273	2,926		3,589
Fluorspar.....	48,224	45,823		\$215	2,186
Graphite.....	750		750		
Magnesite.....	210				210
Manganese.....	32,959	32,440			519
Mica.....	599	224			375
Mineral pigments.....	20,276	15,493	1,183		3,600
Phosphate rock.....	7,208	197			7,011
Pyrite.....	193,509	180,946	12,563		
Rare metals.....	2,480			2,480	
Silica.....	4,699	4,699			
Sulphur.....	1,614				1,614
Talc and soapstone.....	6,019	569			5,450

TABLE 5.—VALUE OF BY-PRODUCTS, BY CLASSES, FOR EACH STATE: 1919.

	Total.	Mineral.	Not specified.	Custom milling, etc.	Power sold and work or miscellaneous services for other enterprises.
United States.....	\$9,569,113	\$2,153,489	\$490,684	\$1,110,265	\$5,814,675
Alabama.....	33,610	33,610			
Arizona.....	752,152	3,697		31,417	717,138
Arkansas.....	13,916				13,916
California.....	1,145,719	224,578	1,374	87,434	852,333
Colorado.....	599,012	98,492	92,313	301,433	46,774
Connecticut.....	6,250		6,250		
Delaware.....	19,020		4,620		14,400
Florida.....	5,000	197			4,803
Georgia.....	31,821	17,500	13,746		375
Idaho.....	8,216			8,193	23
Illinois.....	222,000	108,124	11,434		102,442
Indiana.....	61,801	38,073			23,728
Iowa.....	10,211				10,211
Kansas.....	67,814				67,814
Kentucky.....	127,138	6,355		215	120,568
Louisiana.....	86,032				86,032
Maine.....	3,593	672	2,926		
Maryland.....	23,275	23,023			252
Massachusetts.....	3,015	33			2,982
Michigan.....	323,330	118,971		176,006	29,362
Minnesota.....	44,672				44,672
Missouri.....	52,190	19,590	10,995	1,768	19,826
Montana.....	215,159	115,660		4,817	94,682
Nebraska.....	694				694
Nevada.....	468,655		450	450,624	17,581
New Hampshire.....	224	224			
New Jersey.....	93,655	11,534			82,121
New Mexico.....	45,308			1,338	43,970
New York.....	84,636	35,316	9,949		39,371
North Carolina.....	8,350	4,800			3,550
North Dakota.....	779				779
Ohio.....	976,083	795,592	3,653		176,841
Oklahoma.....	1,076,195				1,076,195
Oregon.....	4,968	4,841	15		110
Pennsylvania.....	1,883,763	353,607	253,371		1,276,785
Rhode Island.....	1,634				1,634
South Carolina.....	6,229				6,229
South Dakota.....	3,289			3,289	
Tennessee.....	70,375	5,711			64,664
Texas.....	310,340				310,340
Utah.....	74,905	1,946		74	72,885
Vermont.....	5,925				5,925
Virginia.....	21,640				21,640
Washington.....	70,769	7,330			63,439
West Virginia.....	391,986	100,528	3,000		288,458
Wisconsin.....	96,326	14,818	76,688	4,669	161
Wyoming.....	17,634	8,768			8,866

## MINES AND QUARRIES.

TABLE 6.—BY-PRODUCTS: 1919.

BY-PRODUCT.	Number of states reporting.	Number of enterprises reporting.	Number of industries reporting.	Value.
Total.....	47	1 508	30	\$9,569,113
Mineral by-products.....				2,153,489
Barytes.....	1	1	1	7,600
Clay.....	7	27	5	340,965
Coal, bituminous <sup>2</sup> .....	6	33	2	342,228
Coke.....	3	3	1	96,016
Copper.....	2	2	2	170,502
Feldspar.....	2	3	3	3,793
Fuller's earth.....	1	1	1	33
Gold and silver.....	3	3	2	33,693
Iron.....	1	1	1	693
Lead and zinc.....	4	8	3	65,011
Lime.....	5	12	1	574,688
Limestone.....	4	4	3	19,040
Manganese.....	5	5	3	210,128
Marble.....	1	2	1	3,849
Mica.....	2	5	2	3,301
Mineral pigments.....	3	4	3	41,706
Platinum.....	2	14	1	67,675
Pyrite.....	6	17	4	140,067
Sandstone.....	3	3	3	26,618
Silica.....	2	2	2	997
Talc and soapstone.....	1	1	1	1,699
Tungsten (rare metals).....	1	1	1	2,887
Products not specified.....	14	35	15	490,684
Custom milling, etc.....	13	31	9	1,110,265
Power, work, and miscellaneous services:				
Mines and quarries.....	40	315	23	2,719,067
Petroleum and natural-gas industry.....	14	( <sup>1</sup> )	1	3,095,608

<sup>1</sup> Enterprises reporting by-products in the petroleum and natural-gas industry were not enumerated.

<sup>2</sup> Quantity—139,607 net tons.

## PROGRESS OF THE INDUSTRIES.

Comparative summary for producing enterprises: 1919, 1909, 1902, and 1889.—Table 7 gives the prin-

cipal statistics, in so far as comparable figures are available, for producing mines, quarries, and petroleum and natural-gas wells in the United States as reported at the census of 1919 and the three preceding censuses of mines and quarries. Even for the figures given there is not entire comparability because of different classifications in the mining industries at the different censuses. At the census of 1909 the conversion of coal into coke at the coal mines was included, but at the census of 1919 and the censuses for the two earlier years the coke industry was not included in the census of mines and quarries. The making of cement in 1902 and the burning of limestone into lime at the quarries in 1889 and 1902 were included in the statistics of mines and quarries in the censuses for those years, but were classified as manufacturing at the later censuses. No attempt has been made to adjust the figures in order to eliminate these and other differences.

Table 7 shows marked increases from 1889 to 1902 and from 1902 to 1909. It further shows that between 1909 and 1919 there was practically no increase in the number of enterprises, a decrease in the number of mines and quarries, and only a negligible increase in the number of wage earners employed. Large increases are shown for horsepower used, capital invested, and the principal expenses of operation, but the increases in expenses are mainly due to price increases, except the increase in "taxes," which is due to the impost of Federal income tax and special state taxes on mining since 1909.

TABLE 7.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919, 1909, 1902, AND 1889.

	1919	1909	1902	1889	PER CENT OF INCREASE. <sup>1</sup>		
					1909-1919	1902-1909	1889-1902
Number of enterprises.....	21,280	21,268	46,858	( <sup>2</sup> )	0.1	-54.6	—
Number of mines and quarries.....	13,844	13,104	17,039	22,084	-23.8	6.6	-22.8
Number of petroleum and natural-gas wells.....	257,073	166,320	123,230	37,410	54.9	35.0	229.3
Number of natural-gas gasoline plants.....	1,115						
Persons engaged.....	1,077,675	1,041,682			3.5		
Proprietors and firm members, total.....	21,918	29,922	( <sup>2</sup> )	( <sup>2</sup> )	-20.7		
Number performing manual labor.....	5,245	8,861	( <sup>2</sup> )	( <sup>2</sup> )	-40.8		
Salaried employees.....	74,197	44,127	38,128	6,541	68.1	15.7	482.9
Wage earners (average number).....	981,560	937,633	581,728	536,043	1.4	66.3	8.5
Wage earners, December 15, or nearest representative day.....	1,088,189	1,065,283	581,728	536,043	2.2		8.5
Above ground.....	382,766	389,962	221,505	244,127	4.3	65.7	-9.3
Below ground.....	705,423	698,321	360,223	291,916	1.0	93.9	23.4
Power used (aggregate horsepower).....	6,723,786	4,608,253	2,867,562	( <sup>1</sup> )	45.0	60.7	
Capital.....	\$9,955,466,831	\$3,380,525,841	( <sup>2</sup> )	\$1,310,535,318	105.8		
Principal expenses:							
Salaries.....	149,328,985	53,393,551	\$39,020,552	5,520,600	179.7	36.8	606.8
Wages.....	1,295,930,220	589,774,079	369,959,960	222,041,887	103.8	58.6	66.6
Supplies and materials.....	519,593,670	173,411,438	123,814,907	86,076,925	199.6		43.8
Cost of ore, coal, and natural gas purchased as material or for resale.....	35,905,352	29,318,316			22.5		
Fuel and purchased power.....	122,105,930	45,139,560	( <sup>1</sup> )	( <sup>1</sup> )	170.5		
Royalties and rents.....	175,293,984	93,973,585	34,530,713	( <sup>1</sup> )	174.0	85.3	
Taxes.....	140,999,626	17,709,793	( <sup>1</sup> )	( <sup>1</sup> )	692.3		
Contract work.....	79,380,177	28,887,808	20,677,938	( <sup>1</sup> )	174.8	39.7	
Value of products.....	3,158,463,906	1,238,410,322	796,826,417	438,111,548	155.0	55.4	81.9

<sup>1</sup> A minus sign (—) denotes decrease. Percentages are omitted where figures are not comparable.

<sup>2</sup> Not reported.

<sup>3</sup> Average number.

<sup>4</sup> Comparable figures not available.

<sup>5</sup> Includes cost of fuel.

# SUMMARY OF RESULTS.

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Comparative statistics in detail for the years 1919 and 1909, by industries, are given in the first of the general tables, page 40. Table 8 gives for the leading mining and quarrying industries the value of products in 1919, 1909, and 1902 with the percentages of increase, and the same information is presented graphically by the diagram herewith. The

TABLE 8.—COMPARISON OF VALUE OF PRODUCTS FOR THE LEADING MINING INDUSTRIES: 1919, 1909, AND 1902.

INDUSTRY.	1919	1909	1902	PER CENT OF INCREASE. <sup>1</sup>	
				1909-1919	1902-1909
Coal:					
Anthracite.....	\$364,084,142	\$149,180,471	\$76,173,588	144.1	95.8
Bituminous.....	1,145,977,565	427,962,464	290,858,483	167.8	47.1
Petroleum and natural gas	931,793,423	135,416,684	102,265,602	402.5	71.6
Iron ore.....	218,217,905	105,947,082	65,465,321	104.0	68.4
Copper.....	181,258,087	134,616,987	51,178,030	34.6	163.0
Lead and zinc.....	75,579,347	31,363,094	14,000,177	141.0	114.8
Gold and silver, lode mines	58,832,330	83,885,028	77,154,326	-29.9	8.7
Limestone.....	52,943,924	29,832,492	30,441,801	77.5	-2.0
Granite.....	18,270,345	18,997,976	18,257,944	-3.8	4.1
Sandstone.....	10,684,969	9,290,829	11,022,480	15.0	-15.7
Phosphate rock.....	10,300,198	10,781,192	4,922,943	-4.5	119.0
Gold, placer mines.....	9,308,561	10,237,252	5,327,726	-8.5	92.2

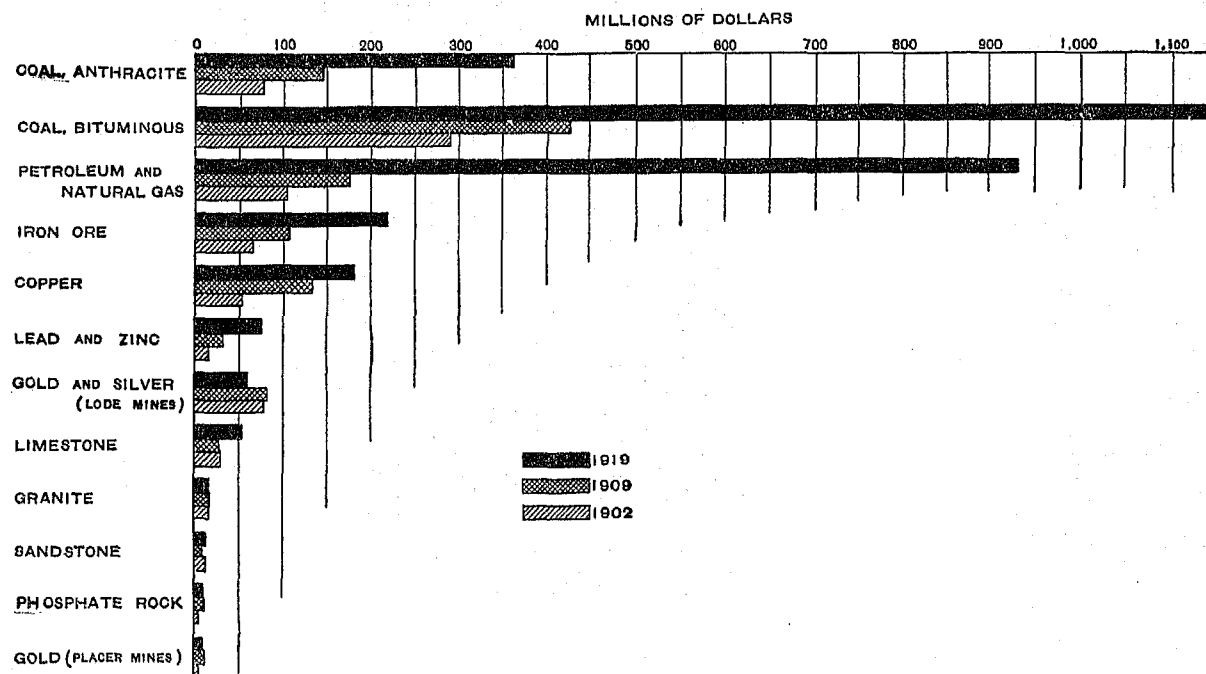
<sup>1</sup> A minus sign (-) denotes decrease.

greatest relative increase in the seven-year period, 1902-1909, was in the copper-mining industry. This increase is, however, misleading because the value for 1909 includes the value of smelter and refinery products, whereas the value for 1902 is limited to mine products. The next greatest relative increase for the period was in the phosphate-rock mining industry. The greatest decrease for the period 1909 to 1919 is

shown for gold and silver-lode mining which, with the placer-mining industry, suffered because of the fixed price of their principal product. The increases shown for the decennial period 1909 to 1919 are exaggerated and the decreases are understated because of the rise in prices. There were, nevertheless, large actual increases in coal-mining, petroleum, and natural-gas production. In the copper-mining industry the actual increase is masked in the table because smelter and refinery statistics were included with mining statistics for 1909. There were also smaller increases in iron-ore and lead and zinc mining and in limestone quarrying.

Comparative statistics in detail for the years 1919 and 1909, by states, are given in the second of the general tables, page 42. Table 9 gives for the leading states the value of products of the mining industries in 1919, 1909, and 1902, and the same information is shown by the diagram on page 24. The greatest relative increases for the seven-year period 1902-1909 were in Louisiana and Oklahoma, where there was great development of the oil and gas industry, and in Nevada where there was large increase in metal mining during that period. The greatest increases for the period 1909-1919 were shown in Texas and the next greatest in Oklahoma, Kentucky, and Louisiana, for which the great expansion in the petroleum and natural-gas industry were responsible. Notable increases are also shown for Kansas, Wyoming, West Virginia, New Mexico, and Virginia, and are ascribable largely, if not entirely, to growth in the coal-mining and petroleum and natural-gas industry. All these

VALUE OF PRODUCTS, LEADING MINING INDUSTRIES: 1919, 1909, AND 1902.



## MINES AND QUARRIES.

increases are, of course, exaggerated by the price increases during the decade. Very small increases are shown for Colorado and Missouri and decreases are

shown for Montana and Nevada. These changes were the result of depression in the metal-mining industries during 1919.

VALUE OF PRODUCTS, MINING INDUSTRIES, BY STATES: 1919, 1909, AND 1902.

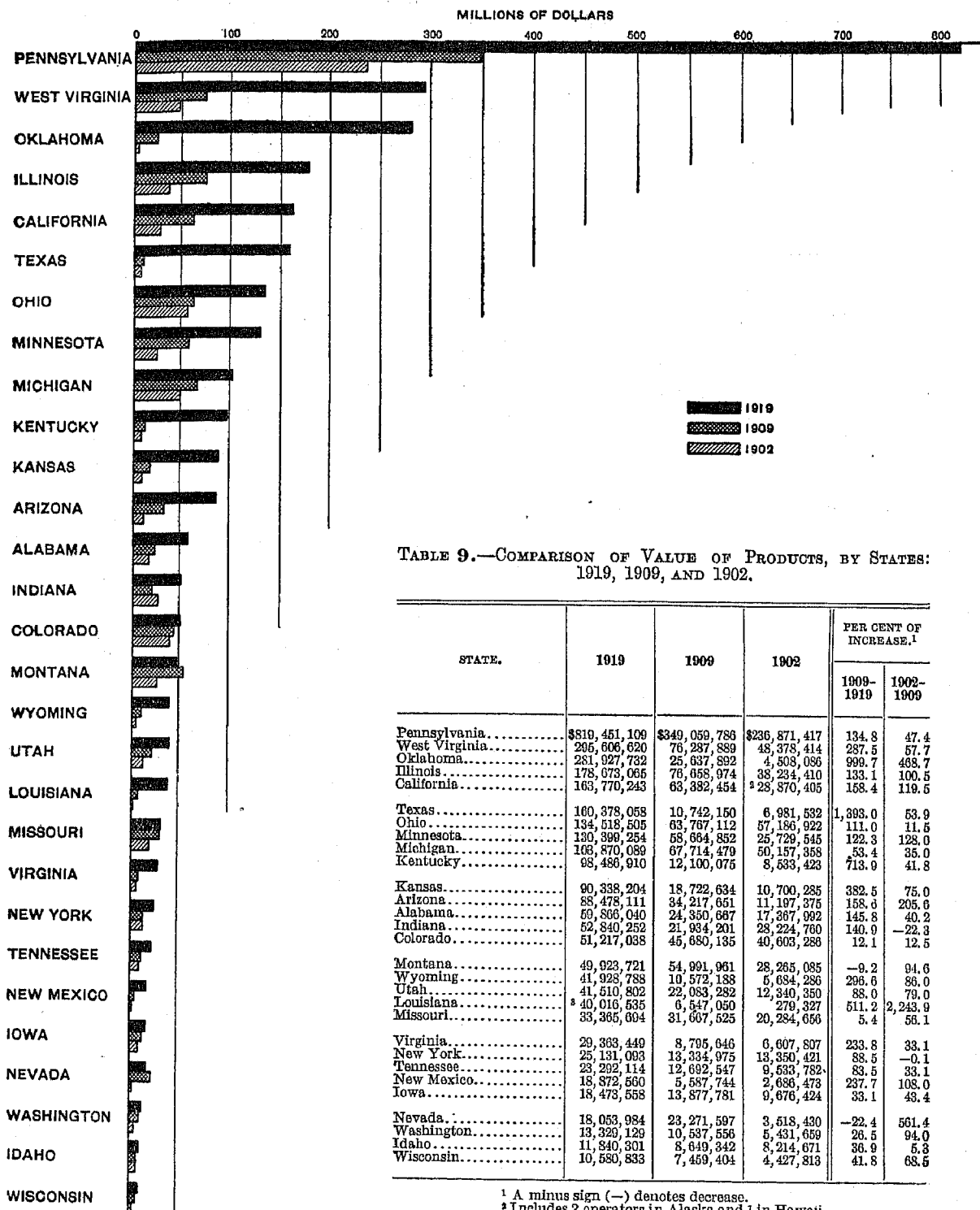


TABLE 9.—COMPARISON OF VALUE OF PRODUCTS, BY STATES: 1919, 1909, AND 1902.

STATE.	1919	1909	1902	PER CENT OF INCREASE. <sup>1</sup>	
				1909-1919	1902-1909
Pennsylvania.....	\$810,451,109	\$349,059,786	\$235,871,417	134.8	47.4
West Virginia.....	206,606,620	76,287,889	48,378,414	287.5	57.7
Oklahoma.....	281,927,732	25,637,892	4,508,086	999.7	468.7
Illinois.....	178,673,065	76,658,974	38,234,410	133.1	100.5
California.....	163,770,243	63,832,454	28,870,405	158.4	119.5
Texas.....	160,378,058	10,742,150	6,981,532	1,393.0	53.9
Ohio.....	134,518,505	63,767,112	57,186,922	111.0	11.5
Minnesota.....	130,399,254	58,664,852	25,729,545	122.3	128.0
Michigan.....	108,870,089	67,714,479	50,157,358	53.4	35.0
Kentucky.....	98,486,910	12,100,075	8,533,423	713.9	41.8
Kansas.....	90,338,204	18,722,634	10,700,285	382.5	75.0
Arizona.....	88,478,111	34,217,651	11,197,375	158.6	205.6
Alabama.....	69,896,040	24,350,687	17,367,992	145.8	40.2
Indiana.....	52,840,252	21,934,201	23,224,760	140.9	-22.3
Colorado.....	51,217,038	45,680,135	40,603,288	12.1	12.5
Montana.....	49,923,721	54,991,961	28,265,085	-9.2	94.6
Wyoming.....	41,928,788	10,572,188	5,634,286	296.6	86.0
Utah.....	41,510,802	22,083,282	12,340,350	88.0	79.0
Louisiana.....	40,016,535	6,647,050	279,327	511.2	2,243.9
Missouri.....	33,365,694	31,607,625	20,284,656	5.4	58.1
Virginia.....	29,363,449	8,795,646	6,607,807	233.8	33.1
New York.....	25,131,093	13,334,975	13,350,421	88.5	-0.1
Tennessee.....	23,292,114	12,692,547	9,533,782	83.5	33.1
New Mexico.....	18,372,600	5,587,744	2,686,473	237.7	108.0
Iowa.....	18,473,558	13,877,781	9,676,424	33.1	43.4
Nevada.....	18,053,984	23,271,597	3,518,430	-22.4	561.4
Washington.....	13,326,129	10,537,556	5,431,659	26.5	94.0
Idaho.....	11,840,501	8,649,342	8,214,671	36.9	5.3
Wisconsin.....	10,590,833	7,459,404	4,427,813	41.8	68.5

<sup>1</sup> A minus sign (-) denotes decrease.

<sup>2</sup> Includes 2 operators in Alaska and 1 in Hawaii.

<sup>3</sup> Includes Mississippi.

# SUMMARY OF RESULTS.

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## GEOGRAPHIC DISTRIBUTION.

Distribution of mining enterprises by geographic divisions: 1919.—The distribution of the mining industries by geographic divisions is shown in Table 10 and by states in Table 11. These tables give the number of enterprises, mines, quarries, and wells and also the average number of wage earners employed and the value of products with the per cent distribution for wage earners and value of products.

TABLE 10.—STATISTICS FOR PRODUCING ENTERPRISES, BY GEOGRAPHIC DIVISIONS: 1919.

DIVISION.	Number of enterprises.	Number of mines and quarries.	Number of wells.	WAGE EARNERS.		VALUE OF PRODUCTS.	
				Average number.	Per cent of total.	Amount.	Per cent of total.
United States.....	21,280	13,844	257,673	981,560	100.0	\$3,153,463,966	100.0
New England.....	302	334	.....	7,213	0.7	18,723,573	0.6
Middle Atlantic.....	6,604	3,870	91,511	334,175	34.0	853,891,104	27.0
East North Central.....	3,776	2,324	54,413	190,011	19.4	480,482,744	15.2
West North Central.....	1,722	1,270	12,691	82,253	8.3	280,111,299	8.9
South Atlantic.....	2,284	1,976	27,363	129,707	13.2	352,073,775	11.1
East South Central.....	1,405	1,475	5,228	90,612	9.2	181,045,064	5.8
West South Central.....	2,821	495	56,087	60,936	6.2	490,726,862	15.5
Mountain.....	1,508	1,598	1,183	81,519	8.3	321,825,305	10.2
Pacific.....	858	502	9,197	25,134	2.6	178,984,243	5.7

The Middle Atlantic division easily ranked first among the several geographic divisions, the value of its mineral products during 1919 amounting to \$853,891,104, or 27 per cent of the total value for the United States. Next in order was the West South Central division, with products valued at \$490,726,862, or

15.5 per cent of the total. The mineral products of the first division consisted largely of coal and of the second, mainly of petroleum and natural gas. Other divisions with considerable mineral production are the East North Central, South Atlantic, and the Mountain divisions. The percentage distribution of the value of products by geographic divisions for 1919 is shown graphically by the diagram herewith.

PERCENTAGE DISTRIBUTION OF VALUE OF PRODUCTS, BY GEOGRAPHIC DIVISIONS: 1919.

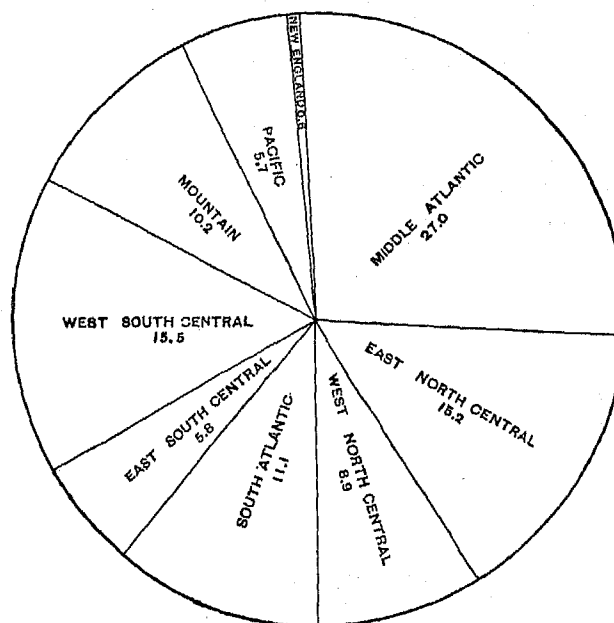


TABLE 11.—STATISTICS FOR PRODUCING ENTERPRISES, BY STATES: 1919.

STATE.	Number of enterprises.	Number of mines and quarries.	Number of wells.	WAGE EARNERS.		VALUE OF PRODUCTS.	
				Average number.	Per cent of total.	Amount.	Per cent of total.
United States.....	21,280	13,844	257,673	981,560	100.0	\$3,153,463,966	100.0
Alabama.....	204	348	.....	32,579	3.3	59,866,040	1.9
Arizona.....	155	172	.....	15,268	1.6	88,478,111	2.8
Arkansas.....	129	126	124	3,630	0.4	8,404,537	0.3
California.....	725	357	9,197	19,344	2.0	163,770,243	5.2
Colorado.....	477	523	70	16,790	1.7	51,217,038	1.6
Connecticut.....	41	47	.....	543	0.1	1,649,003	0.1
Delaware.....	7	8	.....	116	(1)	243,647	(1)
District of Columbia.....	3	3	.....	12	(1)	15,627	(1)
Florida.....	30	55	.....	3,372	0.3	8,976,413	0.3
Georgia.....	74	82	.....	2,397	0.2	4,082,162	0.1
Idaho.....	82	83	.....	2,455	0.3	11,840,301	0.4
Illinois.....	772	590	16,498	79,123	8.1	178,673,065	5.7
Indiana.....	503	398	2,456	26,751	2.7	52,840,252	1.7
Iowa.....	198	226	.....	11,274	1.1	18,473,558	0.6
Kansas.....	814	238	12,690	16,136	1.6	90,338,204	2.9
Kentucky.....	938	864	5,214	43,563	4.4	98,486,910	3.1
Louisiana and Mississippi.....	137	4	2,479	5,228	0.5	40,016,535	1.3
Maine.....	50	51	.....	979	0.1	1,823,442	0.1
Maryland.....	120	161	.....	5,628	0.6	9,698,577	0.3
Massachusetts.....	74	79	.....	1,704	0.2	4,175,699	0.1
Michigan.....	122	165	19	31,292	3.2	103,870,089	3.3
Minnesota.....	135	196	.....	17,265	1.8	130,399,254	4.1
Missouri.....	468	494	.....	14,857	1.5	33,865,694	1.1
Montana.....	259	269	28	16,129	1.6	\$40,923,721	1.6
Nebraska.....	9	9	.....	162	(1)	292,760	(1)
Nevada.....	203	207	.....	4,231	0.4	18,053,984	0.6
New Hampshire.....	30	33	.....	682	0.1	1,568,195	(1)
New Jersey.....	97	102	.....	4,576	0.5	9,308,902	0.3
New Mexico.....	85	103	1	7,100	0.7	18,872,560	0.6
New York.....	700	147	14,186	6,202	0.6	25,131,093	0.8
North Carolina.....	102	106	.....	1,890	0.2	2,736,543	0.1
North Dakota.....	79	79	.....	774	0.1	1,927,304	0.1
Ohio.....	2,283	1,064	35,440	49,298	5.0	134,518,505	4.3
Oklahoma.....	1,934	284	44,735	33,914	3.5	281,927,732	8.9
Oregon.....	50	52	.....	740	0.1	1,884,871	0.1
Pennsylvania.....	5,807	3,621	77,325	323,397	32.9	819,451,109	25.9
Rhode Island.....	14	15	.....	369	(1)	952,204	(1)
South Carolina.....	20	20	.....	933	0.1	1,360,747	(1)
South Dakota.....	23	28	1	1,785	0.2	5,314,516	0.2
Tennessee.....	203	263	14	14,470	1.5	23,292,114	0.7
Texas.....	624	81	8,749	18,164	1.9	160,378,058	5.1
Utah.....	141	164	.....	9,847	1.0	41,510,892	1.3
Vermont.....	93	109	.....	2,936	0.3	8,555,030	0.3
Virginia.....	202	216	.....	14,547	1.5	29,363,449	0.9
Washington.....	83	93	.....	5,050	0.5	13,329,129	0.4
West Virginia.....	1,714	1,325	27,363	100,812	10.3	295,606,620	9.3
Wisconsin.....	92	107	.....	3,547	0.4	10,580,833	0.3
Wyoming.....	106	87	1,084	9,666	1.0	41,928,788	1.3

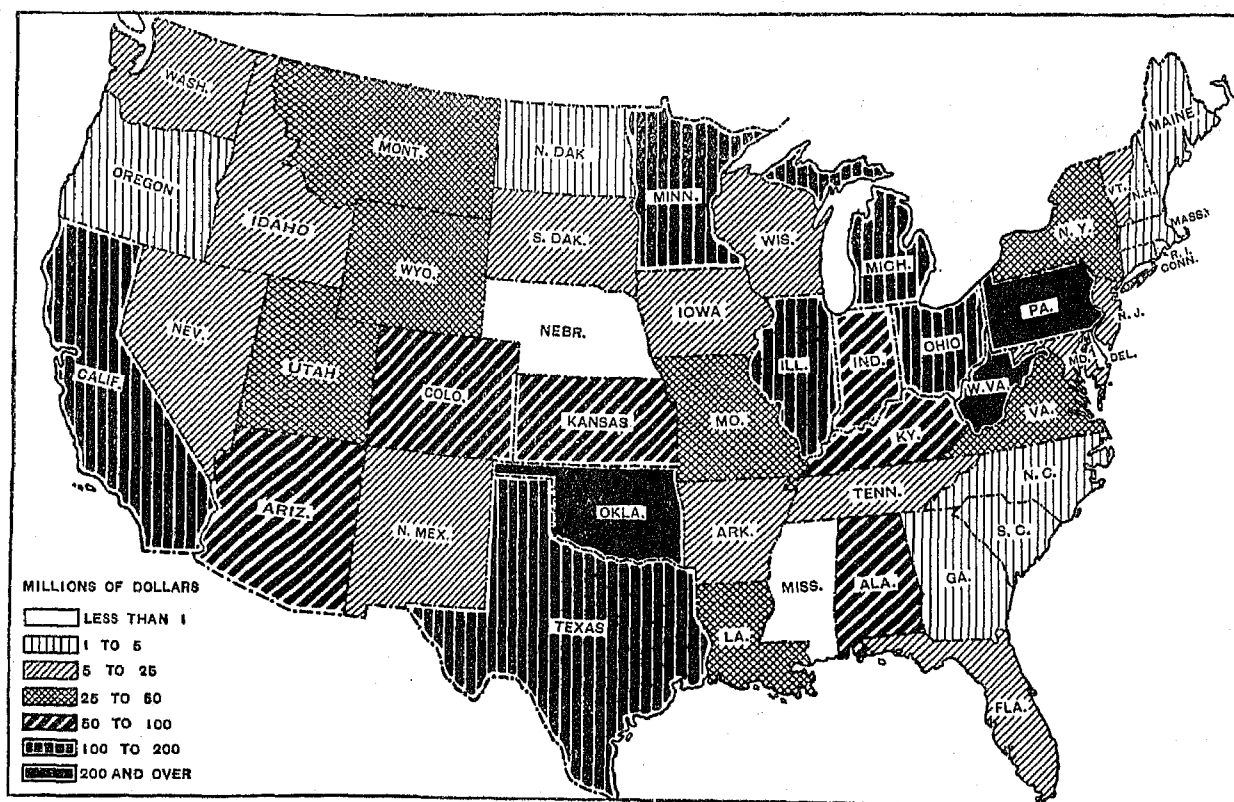
<sup>1</sup> Less than one-tenth of 1 per cent.

The prominence of the Middle Atlantic division in mineral production is due wholly to the state of Pennsylvania, which, as shown in Tables 9 and 11, with products (mainly coal) valued at over \$800,000,000, in 1919 reported more than one-fourth of the value of all mineral products in the United States. No other state approaches Pennsylvania in importance in the mining industries. West Virginia, which ranks second, had products valued at nearly \$300,000,000, about two-thirds of which was the value of coal and about one-third the value of petroleum and natural gas. The total value of products for this state was a little more than one-third of the value shown for Pennsylvania and 9.3 per cent of the total shown for the United States. Oklahoma ranked third with products, mainly petroleum and natural gas, valued at nearly \$282,000,000, or a little more than one-third of the value shown for Pennsylvania and 8.9 per cent of the total for the United States. Other states having mineral products valued at more than \$100,000,000

in 1919 were Illinois, California, Texas, Ohio, Minnesota, and Michigan. The nine states named, reported in 1919, 71.8 per cent of the value of all mineral products for the United States.

There are several states in which the mineral production is quite insignificant—Connecticut, Delaware, District of Columbia, Maine, Mississippi, Nebraska, New Hampshire, North Carolina, North Dakota, Oregon, Rhode Island, and South Carolina each contributing less than one-tenth of 1 per cent of the value of mineral products. The value of products for Arkansas, Florida, Georgia, Idaho, Maryland, Massachusetts, New Jersey, South Dakota, Vermont, Washington, and Wisconsin were each less than one-half of 1 per cent of the total for the United States. The combined value of products of these 23 states was less than 4 per cent of the total for the United States. The map following shows the relative value of products of the mining industries in the several states.

VALUE OF PRODUCTS, MINING INDUSTRIES, BY STATES: 1919.



The distribution of wage earners employed in producing mining enterprises follows approximately the distribution of the total value of products except, however, that where coal is the chief mineral product the average number of wage earners is relatively greater, and where petroleum and natural gas are the principal products, the average number of wage earners is relatively less. Thus, as shown by Table 10, the Middle Atlantic division reported 34 per cent of all

wage earners, a considerably greater percentage than its share of the total value of products. An excess in percentage of total wage earners over percentage of total value of products was also reported for the coal-producing East North Central and South Atlantic divisions, which ranked second and third, respectively, on the basis of wage earners employed. The reverse is markedly the case in the West South Central division, in which petroleum and natural gas produc-

# SUMMARY OF RESULTS.

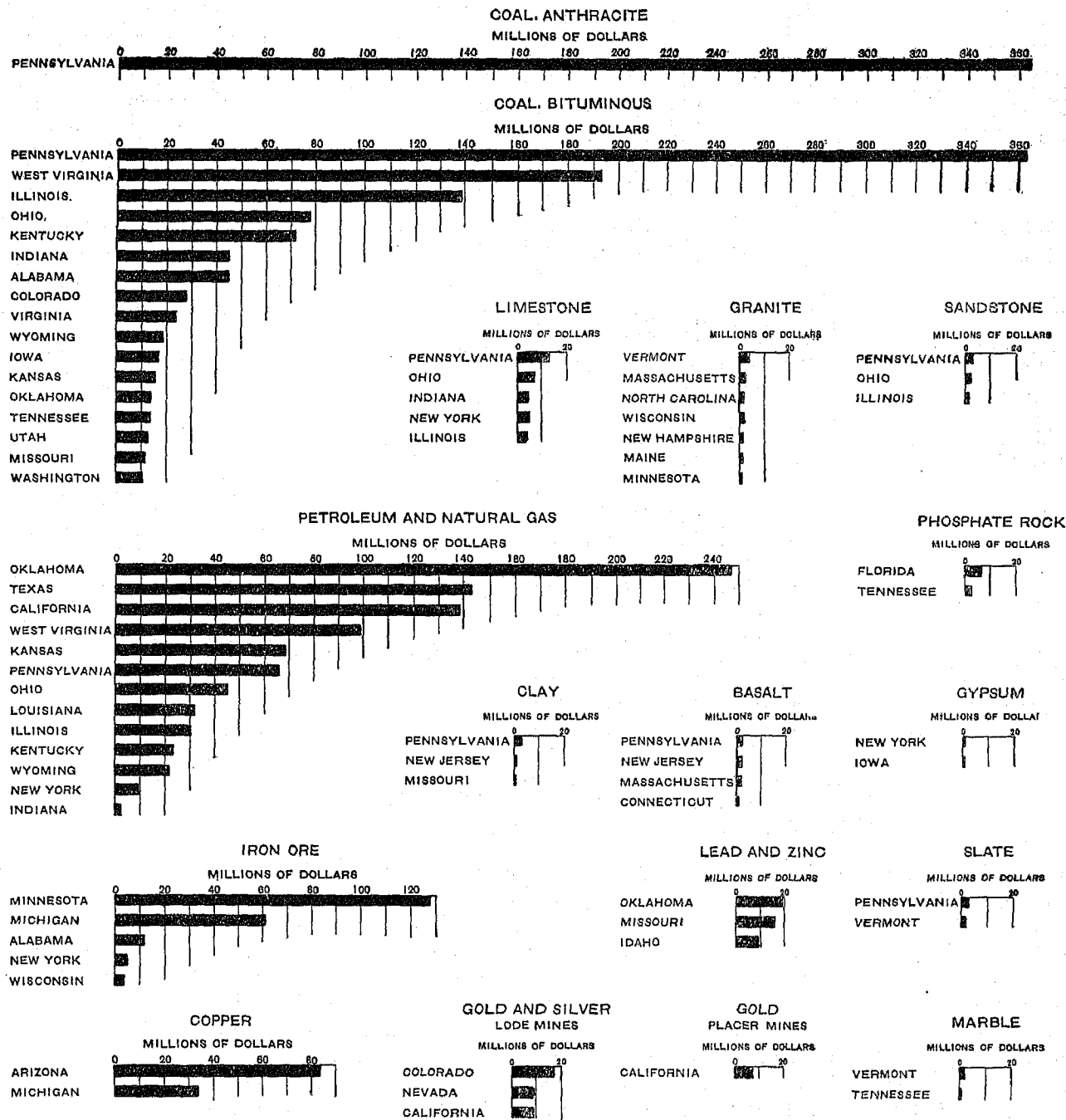
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tion was the principal industry, and which ranked seventh in the average number of wage earners, but second in value of products.

Distribution of the principal industries by states: 1919.—Table 12 gives the number of enterprises, the average number of wage earners, and the value of

products for the leading states for each of 16 leading mining industries, and shows for each industry and state the per cent distribution of the total number of wage earners and total value of products. The same data on value of products are presented graphically by the diagram herewith.

VALUE OF PRODUCTS, LEADING MINING INDUSTRIES, BY STATES: 1919.



Pennsylvania contributed nearly one-third of the value of products of the bituminous coal mines in 1919, and the group of six contiguous states, Pennsylvania, West Virginia, Illinois, Ohio, Kentucky, and Indiana, together reported more than three-fourths of the total. The table shows altogether 17 states in all parts of

the United States each of which produced bituminous coal valued at more than \$10,000,000 and which together accounted for 96.5 per cent of the total.

The anthracite coal production is practically confined to the state of Pennsylvania and is shown separately for that state only.



## MINES AND QUARRIES.

TABLE 12.—PRINCIPAL INDUSTRIES, BY STATES, RANKED BY VALUE OF PRODUCTS, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND STATE.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY AND STATE.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent of total.	Amount.	Per cent of total.			Average number.	Per cent of total.	Amount.	Per cent of total.
COAL, ANTHRACITE.....	254	147,372	100.0	\$304,084,142	100.0	LIMESTONE <sup>1</sup> .....	895	22,069	100.0	\$52,043,924	100.0
Pennsylvania.....	254	147,372	100.0	304,084,142	100.0	Pennsylvania.....	184	5,573	25.3	12,881,213	24.3
COAL, BITUMINOUS.....	6,636	545,798	100.0	1,145,977,665	100.0	Ohio.....	90	2,262	10.2	6,742,496	12.7
Pennsylvania.....	1,838	154,992	28.4	362,973,852	31.7	Indiana.....	67	1,800	8.2	4,619,801	8.7
West Virginia.....	926	87,085	16.0	193,108,343	16.9	New York.....	55	1,739	7.9	4,597,942	8.7
Illinois.....	447	73,780	13.5	138,767,835	12.1	Illinois.....	41	1,244	5.6	3,776,626	7.1
Ohio.....	788	40,452	7.4	77,888,602	6.8	GRANITE.....	358	8,049	100.0	18,279,345	100.0
Kentucky.....	635	39,760	7.3	72,432,840	6.3	Vermont.....	27	1,062	13.2	3,563,734	19.5
Indiana.....	295	24,479	4.5	45,492,726	4.0	Massachusetts.....	42	1,034	12.8	2,405,165	13.2
Alabama.....	188	24,648	4.5	45,359,441	4.0	North Carolina.....	16	959	11.9	1,576,250	8.6
Colorado.....	161	11,252	2.1	28,342,195	2.5	Wisconsin.....	14	753	9.4	1,484,979	8.1
Virginia.....	108	11,215	2.1	23,763,440	2.1	New Hampshire.....	23	589	7.3	1,427,979	7.8
Wyoming.....	45	7,091	1.3	18,723,451	1.6	Maine.....	42	747	9.3	1,300,993	7.1
Iowa.....	167	10,584	1.9	16,903,358	1.5	Minnesota.....	27	392	4.9	1,135,391	6.2
Kansas.....	129	8,084	1.5	15,748,835	1.4	SANDSTONE.....	255	4,287	100.0	10,684,969	100.0
Oklahoma.....	84	7,040	1.3	14,477,317	1.3	Pennsylvania.....	100	1,673	39.0	3,534,503	33.1
Tennessee.....	107	9,556	1.8	14,024,432	1.2	Ohio.....	21	875	20.4	2,759,352	25.8
Utah.....	27	3,647	0.7	12,632,035	1.1	Illinois.....	15	288	6.7	1,329,389	12.4
Missouri.....	179	7,285	1.3	12,077,845	1.1	PHOSPHATE ROCK.....	48	4,373	100.0	10,300,198	100.0
Washington.....	35	4,413	0.8	10,737,056	0.9	Florida.....	23	2,330	53.3	6,678,888	64.8
PETROLEUM AND NATURAL GAS.....	9,814	93,205	100.0	931,793,423	100.0	Tennessee.....	19	1,568	35.9	3,139,671	30.5
Oklahoma.....	1,699	21,180	22.7	247,497,450	26.6	CLAY <sup>5</sup> .....	345	5,453	100.0	10,086,298	100.0
Texas.....	553	13,599	14.6	149,337,862	15.4	Pennsylvania.....	62	1,337	24.5	2,540,485	25.2
California.....	408	12,344	13.2	139,018,663	14.9	New Jersey.....	35	868	15.9	1,482,358	14.7
West Virginia.....	751	12,302	13.2	99,018,394	10.7	Missouri.....	41	622	11.4	1,420,585	14.1
Kansas.....	613	6,305	6.8	68,515,158	7.4	BASALT.....	103	3,336	100.0	9,657,977	100.0
Pennsylvania.....	3,140	9,065	9.7	66,271,961	7.1	Pennsylvania.....	29	721	21.6	2,208,791	23.8
Ohio.....	1,333	5,123	5.5	45,483,525	4.9	New Jersey.....	36	637	19.1	1,928,025	20.0
Louisiana.....	133	4,841	5.2	32,016,085	3.4	Massachusetts.....	21	547	16.4	1,548,611	16.0
Illinois.....	236	2,752	3.0	31,263,563	3.4	Connecticut.....	20	363	10.9	1,202,579	12.1
Kentucky.....	196	2,119	2.3	23,329,521	2.5	GOLD, PLACER MINES.....	112	1,380	100.0	9,368,561	100.0
Wyoming.....	39	2,167	2.3	21,959,937	2.4	California.....	60	1,102	79.9	7,937,654	84.7
New York.....	561	888	0.9	9,606,894	1.1	GYPSUM.....	47	2,191	100.0	6,805,940	100.0
Indiana.....	131	403	0.4	2,604,395	0.3	New York.....	6	400	18.3	1,110,463	16.3
IRON ORE.....	280	45,741	100.0	218,217,905	100.0	Iowa.....	5	444	20.3	1,092,920	16.1
Minnesota.....	89	16,236	35.5	128,377,174	58.8	SLATE.....	101	3,513	100.0	5,720,792	100.0
Michigan.....	65	16,160	35.3	60,906,692	27.9	Pennsylvania.....	42	1,892	53.9	2,651,533	46.3
Alabama.....	39	6,485	14.2	12,291,760	5.6	Vermont.....	38	1,039	29.6	2,087,388	36.0
New York.....	7	1,811	4.0	5,264,443	2.4	MARBLE.....	48	1,732	100.0	4,397,912	100.0
Wisconsin.....	6	1,145	2.5	3,826,872	1.8	Vermont.....	15	570	32.9	2,108,872	48.0
COPPER.....	195	43,717	100.0	181,258,087	100.0	Tennessee.....	13	540	31.2	1,088,131	24.7
Arizona.....	75	14,237	32.6	84,217,141	46.5						
Michigan.....	22	12,235	28.0	34,476,330	19.0						
LEAD AND ZINC <sup>2</sup> .....	432	21,884	100.0	75,579,347	100.0						
Oklahoma.....	111	5,253	24.0	18,979,726	25.1						
Missouri.....	93	4,793	21.9	15,879,177	21.0						
Idaho.....	20	1,820	8.3	9,529,723	12.6						
GOLD AND SILVER, LODE MINES <sup>3</sup> .....	740	15,430	100.0	58,832,330	100.0						
Colorado.....	198	3,495	22.6	16,785,716	28.5						
Nevada.....	148	2,084	13.5	9,687,431	16.5						
California.....	99	2,881	18.7	8,773,757	14.9						

<sup>1</sup> Montana and Utah, ranking 3 and 4, respectively, not shown in order to avoid disclosure of individual operations.<sup>2</sup> Montana, ranking 4, not shown in order to avoid disclosure of individual operations.<sup>3</sup> Utah, ranking 4, not shown in order to avoid disclosure of individual operations.<sup>4</sup> Michigan, ranking 6, not shown in order to avoid disclosure of individual operations.<sup>5</sup> Ohio, ranking 4, not shown in order to avoid disclosure of individual operations.

The production of petroleum and natural gas was chiefly from three areas—in eastern, central, and western parts of the country. The central area, mainly in Kansas, Oklahoma, and Texas, reported nearly one-half of the total value of these products, and Oklahoma lead with 26.6 per cent of the total value of petroleum and natural-gas products for the United States. The eastern area was mainly in Pennsylvania, Ohio, and West Virginia, which states together reported nearly one-fourth of the total value. The area third in importance was in California, which reported a little more than one-seventh of the total value.

Localization of the metal-mining industry is more marked than for the fuel producing industries. Nearly one-half of the copper production was in Arizona and

nearly one-fifth in Michigan. These two states leading in this industry reported nearly two-thirds of the value of products of the copper mines. Nearly one-half of the value of lead and zinc mines was reported in Oklahoma and Missouri and with the Kansas production (not shown in the table) added to these more than one-half of the total value is accounted for in this central region. Gold and silver mining is practically limited to the Western states. The three leading states, Colorado, Nevada, and California, together reported three-fifths, and Colorado alone reported more than one-fourth of the total value of products of this industry. Nearly three-fifths of the value of iron ore mined was reported by one state, Minnesota, and the value of iron ore produced in the adjacent states, Michigan and Wisconsin, brought the total for this northern central

## SUMMARY OF RESULTS.

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region to nearly nine-tenths of the total for the United States.

Stone-quarrying enterprises are very widely distributed throughout the country, but as shown by the value of products for the states, the industries are much more important in New England and Middle Atlantic states than elsewhere. The phosphate-rock industry is practically all concentrated in Florida and Tennessee.

## CHARACTER OF ORGANIZATION.

Table 13 presents a classification of mining enterprises according to the character, corporate or other, of the organizations operating them. The table gives, for all industries combined and for each of the leading industries separately, the number of enterprises operated by each form of organization and shows the average number of wage earners employed and the value of products with the distribution by classes.

TABLE 13.—CHARACTER OF ORGANIZATION, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.			INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.				Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	21,280	981,560	\$3,158,463,966	\$148,424	100.0	100.0	100.0	GRANITE.....	358	8,049	\$18,279,345	\$51,060	100.0	100.0	100.0
Corporation.....	10,879	924,421	2,954,789,792	271,605	51.1	94.2	93.6	Corporation.....	152	6,392	14,504,529	95,425	42.5	79.4	79.3
Individual.....	4,312	24,107	71,982,739	16,694	20.3	2.5	2.3	Individual.....	126	938	2,109,442	16,742	35.2	11.7	11.5
Firm.....	5,249	28,916	103,683,684	19,753	24.7	2.9	3.3	Firm <sup>2</sup> .....	80	719	1,665,374	20,817	22.3	8.9	9.1
Other.....	840	4,116	28,007,751	33,343	3.9	0.4	0.9	SULPHUR.....	4	1,129	17,935,882	4,483,971	100.0	100.0	100.0
COAL, ANTHRACITE.....	254	147,372	364,084,142	1,433,402	100.0	100.0	100.0	Corporation.....	4	1,129	17,935,882	4,483,971	100.0	100.0	100.0
Corporation.....	170	143,615	355,328,907	2,090,170	66.9	97.5	97.6	SANDSTONE.....	255	4,287	10,084,969	41,902	100.0	100.0	100.0
Individual.....	37	431	962,441	26,012	14.6	0.3	0.3	Corporation.....	142	3,574	9,405,068	66,233	55.7	83.4	88.0
Firm.....	42	2,879	6,741,024	160,501	15.5	2.0	1.9	Individual.....	61	279	500,761	8,209	23.9	6.5	4.7
Other.....	5	447	1,051,770	210,354	2.0	0.3	0.3	Firm <sup>2</sup> .....	52	434	779,140	14,983	20.4	10.1	7.3
COAL, BITUMINOUS.....	6,636	545,798	1,145,977,565	172,691	100.0	100.0	100.0	PHOSPHATE ROCK.....	48	4,373	10,300,198	214,587	100.0	100.0	100.0
Corporation.....	4,325	515,682	1,085,004,874	250,898	65.2	94.5	94.7	Corporation.....	39	4,058	9,546,209	244,775	81.3	92.8	92.7
Individual.....	1,181	13,844	28,343,965	24,000	17.8	2.5	2.5	Individual.....	4	95	187,858	46,965	8.3	2.2	1.8
Firm.....	1,095	14,847	30,100,087	27,489	18.5	2.7	2.6	Firm <sup>2</sup> .....	5	220	566,131	113,226	10.4	5.0	5.5
Other.....	35	1,415	2,528,639	72,247	0.5	0.3	0.2	CLAY.....	345	5,453	10,086,298	29,236	100.0	100.0	100.0
PETROLEUM AND NATURAL GAS.....	9,814	93,205	931,793,423	94,945	100.0	100.0	100.0	Corporation.....	212	4,480	8,034,433	37,898	61.4	82.2	79.7
Corporation.....	8,685	83,399	828,633,805	224,867	37.5	89.5	88.9	Individual.....	98	644	1,454,977	14,847	28.4	11.8	14.4
Individual.....	2,063	3,242	28,759,096	13,940	21.0	3.5	3.1	Firm <sup>2</sup> .....	35	329	596,888	17,054	10.1	6.0	5.9
Firm.....	3,296	5,002	51,758,029	15,703	33.6	5.4	5.6	BASALT.....	163	3,336	9,657,977	59,251	100.0	100.0	100.0
Other.....	770	1,562	22,642,493	29,406	7.8	1.7	2.4	Corporation.....	104	2,809	8,327,873	80,076	63.8	84.2	88.2
IRON ORE.....	290	45,741	218,217,905	752,476	100.0	100.0	100.0	Individual.....	40	356	973,250	24,331	24.5	10.7	10.1
Corporation.....	267	45,152	216,718,813	811,681	92.1	98.7	99.3	Firm.....	16	149	338,073	21,005	9.8	4.6	3.5
Individual.....	12	221	390,551	32,546	4.1	0.5	0.2	Other.....	3	22	20,781	6,927	1.8	0.7	0.2
Firm <sup>1</sup> .....	11	368	1,108,541	100,776	3.8	0.8	0.5	GOLD, PLACER MINES.....	112	1,380	9,368,561	83,648	100.0	100.0	100.0
COPPER.....	195	43,717	181,258,087	929,529	100.0	100.0	100.0	Corporation.....	45	1,259	8,965,148	199,226	40.2	91.2	95.7
Corporation.....	141	43,470	180,735,466	1,281,812	72.3	99.4	99.7	Individual.....	33	78	338,015	10,243	29.5	5.7	3.6
Individual.....	24	150	310,336	12,931	12.3	0.3	0.2	Firm <sup>2</sup> .....	34	43	65,398	1,923	30.4	3.1	0.7
Firm <sup>1</sup> .....	30	97	212,285	7,070	15.4	0.2	0.1	GYPSUM.....	47	2,191	6,805,940	144,807	100.0	100.0	100.0
LEAD AND ZINC.....	432	21,884	75,579,347	174,952	100.0	100.0	100.0	Corporation.....	43	2,176	6,782,826	157,740	91.5	99.3	99.7
Corporation.....	287	20,508	70,551,148	245,823	66.4	93.7	93.3	Individual.....	4	15	23,114	5,779	8.5	0.7	0.3
Individual.....	40	372	1,510,296	37,757	9.3	1.7	2.0	SLATE.....	101	3,513	5,720,792	56,642	100.0	100.0	100.0
Firm.....	100	870	3,156,133	31,561	23.1	4.0	4.2	Corporation.....	71	3,007	5,021,062	70,719	70.3	85.6	87.8
Other.....	5	134	361,770	72,354	1.2	0.6	0.5	Individual.....	8	131	187,699	23,462	7.9	3.7	3.3
GOLD AND SILVER, LODE MINES.....	740	15,436	58,832,330	79,503	100.0	100.0	100.0	Firm <sup>1</sup> .....	22	375	512,031	23,274	21.8	10.7	9.0
Corporation.....	306	14,448	55,715,104	140,695	53.5	93.6	94.7	MARBLE.....	48	1,732	4,397,912	91,623	100.0	100.0	100.0
Individual.....	138	401	802,301	5,814	18.6	2.6	1.4	Corporation.....	44	1,672	4,318,737	98,153	91.7	96.5	98.2
Firm.....	198	480	1,963,422	9,916	29.8	3.1	3.3	Individual <sup>2</sup> .....	4	60	79,175	19,794	8.3	3.5	1.8
Other.....	8	107	351,503	43,938	1.1	0.7	0.6	LIMESTONE.....	895	22,069	52,943,924	59,155	100.0	100.0	100.0
Corporation.....	462	18,324	45,890,605	99,330	51.6	83.0	86.7	Corporation.....	289	2,011	3,705,252	12,821	32.3	9.1	7.0
Individual.....	269	2,011	3,705,252	12,821	32.3	9.1	7.0	Individual.....	140	1,635	3,112,907	22,235	15.6	7.4	5.9
Firm.....	140	1,635	3,112,907	22,235	15.6	7.4	5.9	Other.....	4	99	235,160	58,790	0.4	0.4	0.4
Other.....	4	99	235,160	58,790	0.4	0.4	0.4								

<sup>1</sup> Includes 1 "other" form of organization.<sup>2</sup> Includes 2 "other" forms of organization.<sup>3</sup> Includes 2 firms.

Among 21,280 enterprises of producing mines, quarries, and wells 10,879, or slightly more than half, were conducted by corporations. These enterprises employed 94.2 per cent of the total average number of persons engaged in the mining enterprises and reported 93.6 per cent of the total value of products. Individuals conducted about one-fifth, firms and partner-

ships about one-fourth, and other forms of organizations only a very small part of the total number of enterprises, and the number of wage earners employed and the value of products reported by these classes were quite unimportant. Furthermore, the average value of products was \$271,605 per enterprise for those enterprises operated by corporations and only one-

eighth as much or less for enterprises operated by any other form of organization. Corporations were in the majority in each of the leading industries except petroleum and natural gas, granite, and gold-placer mining, and in these three they outnumbered organizations of other character and conducted the larger and more important enterprises.

## SCALE OF OPERATION.

Size of enterprises by value of products.—Table 14 gives for all mining industries combined and for 16 leading mining industries separately a classification of enterprises according to value of products, and shows for each class the number of enterprises and the value of products with the per cent distribution.

TABLE 14.—SIZE OF PRODUCING ENTERPRISES, BY VALUE OF PRODUCTS: 1919.

INDUSTRY AND VALUE OF PRODUCTS PER ENTERPRISE.	Num-ber.	Per cent dis-tribu-tion.	VALUE OF PRODUCTS.		INDUSTRY AND VALUE OF PRODUCTS PER ENTERPRISE.	Num-ber.	Per cent dis-tribu-tion.	VALUE OF PRODUCTS.	
			Amount.	Per cent dis-tribu-tion.				Amount.	Per cent dis-tribu-tion.
<b>ALL INDUSTRIES</b> .....	21,280	100.0	33,158,403,966	100.0	<b>GOLD AND SILVER, LOSE MINES</b> .....	740	100.0	\$58,832,330	100.0
Less than \$5,000.....	6,586	30.9	15,228,604	0.5	Less than \$5,000.....	381	51.5	695,400	1.2
\$5,000 to \$20,000.....	5,539	26.0	58,745,473	1.9	\$5,000 to \$20,000.....	140	20.1	1,500,964	2.6
\$20,000 to \$100,000.....	4,990	23.5	237,000,990	7.5	\$20,000 to \$100,000.....	113	15.3	5,149,322	8.8
\$100,000 to \$500,000.....	3,005	14.1	689,788,422	21.7	\$100,000 to \$500,000.....	87	9.1	14,986,545	25.5
\$500,000 to \$1,000,000.....	684	3.2	472,131,636	14.9	\$500,000 to \$1,000,000.....	19	2.6	13,255,565	22.5
\$1,000,000 to \$5,000,000.....	392	1.8	754,160,595	23.9	\$1,000,000 and over <sup>2</sup> .....	11	1.5	23,244,525	39.5
\$5,000,000 and over.....	84	0.4	833,808,246	29.6	<b>LIMESTONE</b> .....	895	100.0	52,043,924	100.0
<b>COAL</b> .....	6,890	100.0	1,510,061,707	100.0	Less than \$5,000.....	208	23.2	507,076	1.0
Less than \$5,000.....	855	12.4	2,801,020	0.2	\$5,000 to \$20,000.....	259	28.9	2,015,875	5.5
\$5,000 to \$20,000.....	1,056	24.0	18,054,638	1.2	\$20,000 to \$100,000.....	310	34.6	14,429,913	27.3
\$20,000 to \$100,000.....	2,049	29.7	102,233,286	6.8	\$100,000 to \$500,000.....	103	11.5	20,834,365	39.4
\$100,000 to \$500,000.....	1,890	24.5	396,152,382	26.2	\$500,000 to \$1,000,000.....	10	1.1	6,904,529	13.0
\$500,000 to \$1,000,000.....	409	5.9	231,472,982	18.6	\$1,000,000 and over <sup>2</sup> .....	5	0.6	7,352,376	13.9
\$1,000,000 to \$5,000,000.....	204	3.0	372,478,693	24.7	<b>GRANITE</b> .....	358	100.0	18,279,345	100.0
\$5,000,000 and over.....	27	0.4	336,878,848	22.3	Less than \$5,000.....	90	25.1	241,093	1.3
<b>ANTHRACITE</b> .....	254	100.0	364,084,142	100.0	\$5,000 to \$20,000.....	104	29.1	1,027,883	5.6
Less than \$5,000.....	37	14.6	89,997	( <sup>1</sup> )	\$20,000 to \$100,000.....	110	30.7	4,786,424	26.2
\$5,000 to \$20,000.....	38	15.0	440,045	0.1	\$100,000 to \$500,000.....	50	14.0	9,344,547	51.1
\$20,000 to \$100,000.....	43	16.9	1,843,631	0.5	\$500,000 and over <sup>2</sup> .....	4	1.1	2,879,898	15.8
\$100,000 to \$500,000.....	39	15.4	10,078,964	2.8	<b>SANDSTONE</b> .....	255	100.0	10,684,969	100.0
\$500,000 to \$1,000,000.....	32	12.6	24,278,649	6.7	Less than \$5,000.....	79	31.0	191,820	1.8
\$1,000,000 to \$5,000,000.....	48	18.9	83,080,309	22.8	\$5,000 to \$20,000.....	78	30.6	841,052	7.9
\$5,000,000 and over.....	17	6.7	244,270,547	67.1	\$20,000 to \$100,000.....	72	28.2	3,035,162	28.4
<b>BITUMINOUS</b> .....	6,636	100.0	1,145,977,565	100.0	\$100,000 and over <sup>2</sup> .....	26	10.2	6,618,935	61.9
Less than \$5,000.....	818	12.3	2,711,023	0.2	<b>PHOSPHATE ROCK</b> .....	48	100.0	10,300,198	100.0
\$5,000 to \$20,000.....	1,618	24.4	17,614,491	1.5	Less than \$5,000.....	8	16.7	66,217	0.6
\$20,000 to \$100,000.....	2,006	30.2	100,379,635	8.8	\$5,000 to \$20,000.....	16	33.3	807,741	8.7
\$100,000 to \$500,000.....	1,651	24.9	396,075,398	33.7	\$20,000 to \$100,000.....	17	35.4	4,052,511	39.3
\$500,000 to \$1,000,000.....	377	5.7	257,196,333	22.4	\$500,000 and over <sup>2</sup> .....	7	14.6	5,283,729	51.3
\$1,000,000 to \$5,000,000.....	156	2.4	289,392,384	25.3	<b>CLAY</b> .....	345	100.0	10,086,298	100.0
\$5,000,000 and over.....	10	0.2	92,608,301	8.1	Less than \$5,000.....	82	23.8	192,739	1.9
<b>PETROLEUM AND NATURAL GAS</b> .....	9,814	100.0	931,793,423	100.0	\$5,000 to \$20,000.....	118	34.2	1,248,365	12.4
Less than \$5,000.....	4,348	44.3	9,531,235	1.0	\$20,000 to \$100,000.....	127	36.8	5,949,044	59.0
\$5,000 to \$20,000.....	2,797	28.5	28,919,564	3.1	\$100,000 to \$500,000.....	18	5.2	2,696,150	26.7
\$20,000 to \$100,000.....	1,696	17.3	75,785,417	8.1	<b>BASALT</b> .....	163	100.0	9,657,977	100.0
\$100,000 to \$500,000.....	684	7.0	150,748,376	16.2	Less than \$5,000.....	20	12.3	48,034	0.5
\$500,000 to \$1,000,000.....	156	1.6	109,951,280	11.8	\$5,000 to \$20,000.....	40	24.5	490,470	5.1
\$1,000,000 to \$5,000,000.....	96	1.0	204,187,367	21.9	\$20,000 to \$100,000.....	77	47.2	3,850,020	39.9
\$5,000,000 and over.....	37	0.4	352,670,184	37.8	\$100,000 and over <sup>2</sup> .....	26	16.0	5,269,453	54.6
<b>IRON ORE</b> .....	290	100.0	218,217,905	100.0	<b>GOLD, PLACER MINES</b> .....	112	100.0	9,368,561	100.0
Less than \$5,000.....	15	5.2	36,040	( <sup>1</sup> )	Less than \$5,000.....	74	66.1	119,809	1.3
\$5,000 to \$20,000.....	29	10.0	392,775	0.2	\$5,000 to \$20,000.....	12	10.7	112,178	1.2
\$20,000 to \$100,000.....	69	23.8	3,774,321	1.7	\$20,000 to \$100,000.....	12	10.7	798,605	8.6
\$100,000 to \$500,000.....	98	33.8	26,453,784	12.1	\$100,000 to \$500,000.....	11	9.8	2,611,707	27.9
\$500,000 to \$1,000,000.....	41	14.1	28,239,920	12.9	\$500,000 and over <sup>2</sup> .....	3	2.7	5,726,262	61.1
\$1,000,000 to \$5,000,000.....	35	12.1	63,674,560	29.2	<b>GYPSUM</b> .....	47	100.0	6,805,940	100.0
\$5,000,000 and over.....	3	1.0	95,646,505	43.8	Less than \$5,000.....	3	6.4	5,042	0.1
<b>COPPER</b> .....	195	100.0	181,258,087	100.0	\$5,000 to \$20,000.....	5	10.6	69,164	1.0
Less than \$5,000.....	60	30.8	103,183	0.1	\$20,000 to \$100,000.....	18	38.3	941,620	13.8
\$5,000 to \$20,000.....	33	16.9	369,280	0.2	\$100,000 to \$500,000.....	18	38.3	4,100,134	60.2
\$20,000 to \$100,000.....	33	16.9	1,911,892	1.1	\$500,000 to \$1,000,000.....	3	6.4	1,689,980	24.8
\$100,000 to \$500,000.....	28	14.4	6,799,421	3.8	<b>SLATE</b> .....	101	100.0	5,720,792 <sup>2</sup>	100.0
\$500,000 to \$1,000,000.....	9	4.6	6,350,924	3.5	Less than \$5,000.....	13	12.9	36,448	0.6
\$1,000,000 to \$5,000,000.....	10	9.7	43,121,957	23.8	\$5,000 to \$20,000.....	21	20.8	276,824	4.8
\$5,000,000 and over.....	13	6.7	122,601,430	67.6	\$20,000 to \$100,000.....	55	54.5	2,764,500	48.3
<b>LEAD AND ZINC</b> .....	432	100.0	75,579,347	100.0	\$100,000 and over <sup>2</sup> .....	12	11.9	2,643,020	46.2
Less than \$5,000.....	135	31.3	261,492	0.3	<b>MARBLE</b> .....	48	100.0	4,397,912	100.0
\$5,000 to \$20,000.....	80	18.5	817,185	1.1	Less than \$5,000.....	4	8.3	10,702	0.2
\$20,000 to \$100,000.....	85	19.7	4,494,519	5.9	\$5,000 to \$20,000.....	8	16.7	81,157	1.8
\$100,000 to \$500,000.....	102	23.6	25,190,455	33.3	\$20,000 to \$100,000.....	25	52.1	1,255,344	28.5
\$500,000 to \$1,000,000.....	17	3.9	11,617,808	15.4	\$100,000 and over <sup>2</sup> .....	11	22.9	3,050,709	69.4
\$1,000,000 to \$5,000,000.....	13	3.0	33,197,888	43.9					

<sup>1</sup> Less than one-tenth of 1 per cent.

<sup>2</sup> Includes the group "\$5,000,000 and over."

<sup>3</sup> Includes the group "\$1,000,000 to \$5,000,000."

<sup>4</sup> Includes the groups "\$500,000 to \$1,000,000" and "\$1,000,000 to \$5,000,000."

<sup>5</sup> Includes the group "Less than \$5,000."

<sup>6</sup> Includes the group "\$500,000 to \$1,000,000."

## SUMMARY OF RESULTS.

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The relative importance of large scale and small scale production in mining is shown by the fact that 6,586 enterprises, or 30.9 per cent of the total, reported products valued at less than \$5,000 each, with an aggregate of \$15,228,604, or only five-tenths of 1 per cent of the total value of products; whereas 476 enterprises reporting products valued at more than \$1,000,000, although they constituted only 2.2 per cent of the total number of enterprises, reported over \$1,600,000,000, or 53.5 per cent of the total value of products. The part contributed by enterprises reporting more than \$1,000,000 worth of products was 33.4 per cent for bituminous coal and 89.9 per cent for anthracite coal;

59.7 per cent in the petroleum and natural-gas industry; ranged, in the metal-mining industries, from 39.5 per cent for gold and silver, lode mines, to 91.4 per cent for copper-mining enterprises; and was 73 per cent in the iron-ore-mining industry.

Size of enterprises by number of wage earners.—Table 15 gives, for all mining industries combined and for the 17 leading industries separately, a classification of producing enterprises according to the average number of wage earners employed and shows for each class the number and per cent distribution of wage earners and enterprises.

TABLE 15.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Num- ber.	Per cent dis- tribu- tion.	Average number.	Per cent dis- tribu- tion.		Num- ber.	Per cent dis- tribu- tion.	Average number.	Per cent dis- tribu- tion.
ALL INDUSTRIES.....	21,280	100.0	981,560	100.0	LIMESTONE.....	895	100.0	22,069	100.0
No wage earners.....	3,722	17.5	18,761	1.7	No wage earners.....	25	2.8	713	3.2
1 to 5.....	7,912	37.2	44,506	4.5	1 to 5.....	238	32.2	3,445	15.6
6 to 20.....	3,948	18.6	76,040	7.7	6 to 20.....	301	33.6	5,456	24.7
21 to 50.....	2,309	10.9	98,021	10.0	21 to 50.....	179	20.0	4,109	18.6
51 to 100.....	1,372	6.4	377,339	38.4	51 to 100.....	59	6.6	8,346	37.8
101 to 500.....	1,743	8.2	125,278	12.8	101 to 500.....	43	4.8	21,884	100.0
501 to 1,000.....	182	0.9	243,015	24.8	LEAD AND ZINC.....	432	100.0	21,884	100.0
Over 1,000.....	92	0.4	195,108	28.1	No wage earners.....	41	9.5	266	1.2
COAL.....	6,890	100.0	693,170	100.0	1 to 5.....	121	28.0	1,195	5.5
No wage earners.....	64	0.9	4,476	0.6	6 to 20.....	104	24.1	2,443	11.2
1 to 5.....	1,574	22.8	18,543	2.7	21 to 50.....	74	17.1	3,054	14.0
6 to 20.....	1,588	23.0	41,038	6.0	51 to 100.....	45	10.4	7,184	32.7
21 to 50.....	1,258	18.3	65,336	9.4	101 to 500.....	30	9.0	2,412	11.0
51 to 100.....	901	13.1	277,528	40.0	501 to 1,000.....	4	0.9	5,350	24.4
101 to 500.....	1,304	18.9	90,541	13.1	Over 1,000.....	4	0.9	15,436	100.0
501 to 1,000.....	134	1.9	195,108	28.1	GOLD AND SILVER, LOSE MINES.....	740	100.0	15,436	100.0
Over 1,000.....	67	1.0	105,110	71.3	No wage earners.....	151	20.4	643	4.2
ANTHRACITE.....	254	100.0	147,372	100.0	1 to 5.....	273	36.9	1,872	12.1
No wage earners.....	2	0.8	139	0.1	6 to 20.....	178	24.1	2,474	16.0
1 to 5.....	62	24.4	469	0.3	21 to 50.....	71	9.6	2,244	14.5
6 to 20.....	39	15.4	629	0.4	51 to 100.....	31	4.2	6,091	43.3
21 to 50.....	20	7.9	981	0.7	101 to 500.....	35	4.7	1,512	9.8
51 to 100.....	13	5.1	18,240	12.4	Over 1,000.....	1	0.1	8,049	100.0
101 to 500.....	63	24.8	21,804	14.8	GRANITE.....	358	100.0	8,049	100.0
501 to 1,000.....	23	13.0	105,110	71.3	No wage earners.....	20	5.6	258	3.6
Over 1,000.....	22	8.7	545,798	100.0	1 to 5.....	119	33.2	1,173	14.6
BITUMINOUS.....	6,636	100.0	545,798	100.0	6 to 20.....	117	32.7	1,862	23.1
No wage earners.....	62	0.9	4,337	0.8	21 to 50.....	60	16.8	2,035	25.3
1 to 5.....	1,512	22.8	18,074	3.3	51 to 100.....	28	7.8	2,091	33.4
6 to 20.....	1,549	23.3	41,000	7.5	101 to 500.....	14	3.9	5,453	100.0
21 to 50.....	1,238	18.7	64,355	11.8	CLAY.....	345	100.0	5,453	100.0
51 to 100.....	888	13.4	259,288	47.5	No wage earners.....	20	7.5	273	5.0
101 to 500.....	1,241	18.7	68,737	12.6	1 to 5.....	103	31.3	1,487	27.3
501 to 1,000.....	101	1.5	89,908	16.5	6 to 20.....	131	38.0	1,824	33.4
Over 1,000.....	45	0.7	14,515	15.6	21 to 50.....	57	16.5	1,270	23.3
PETROLEUM AND NATURAL GAS.....	9,814	100.0	93,205	100.0	51 to 100.....	19	5.5	699	11.0
No wage earners.....	3,292	33.5	8,862	9.5	101 to 500.....	4	1.2	4,373	100.0
1 to 5.....	4,925	50.2	11,036	11.8	PHOSPHATE ROCK.....	48	100.0	4,373	100.0
6 to 20.....	1,034	10.5	9,874	10.6	No wage earners.....	1	2.1	9	0.2
21 to 50.....	295	3.0	9,592	10.3	1 to 5.....	10	4.2	122	2.8
51 to 100.....	133	1.4	21,978	23.6	6 to 20.....	11	22.9	300	8.2
101 to 500.....	102	1.0	17,358	18.6	21 to 50.....	10	20.8	679	15.5
501 to 1,000.....	24	0.2	14,515	15.6	51 to 100.....	14	29.2	3,203	73.2
Over 1,000.....	8	0.1	45,741	100.0	101 to 500.....	255	100.0	4,287	100.0
IRON ORE.....	280	100.0	45,741	100.0	SANDSTONE.....	9	3.5	245	5.7
No wage earners.....	5	1.7	63	0.1	1 to 5.....	105	41.2	1,032	24.1
1 to 5.....	21	7.2	574	1.3	6 to 20.....	89	34.0	942	22.0
6 to 20.....	43	14.8	2,180	4.8	21 to 50.....	20	11.4	1,240	29.1
21 to 50.....	57	19.7	3,822	8.4	51 to 100.....	17	6.7	819	19.1
51 to 100.....	54	18.6	31,032	67.8	101 to 500.....	6	2.4	3,513	100.0
101 to 500.....	102	36.2	5,535	12.1	SLATE.....	101	100.0	3,513	100.0
501 to 1,000.....	7	2.4	8,817	20.2	No wage earners.....	1	1.0	32	0.9
Over 1,000.....	1	0.3	28,995	54.9	1 to 5.....	9	8.9	355	10.1
COPPER.....	195	100.0	43,717	100.0	6 to 20.....	32	31.7	1,291	36.7
No wage earners.....	16	8.2	129	0.3	21 to 50.....	39	38.6	1,005	28.6
1 to 5.....	53	27.2	406	0.9	51 to 100.....	14	13.9	830	23.6
6 to 20.....	35	17.9	859	1.9	101 to 500.....	6	5.9	23.6	
21 to 50.....	27	13.8	8,676	19.8					
51 to 100.....	11	5.6	8,817	20.2					
101 to 500.....	30	15.4	28,995	54.9					
501 to 1,000.....	12	6.2							
Over 1,000.....	11	5.6							

## MINES AND QUARRIES.

TABLE 15.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS: 1919—Continued.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Num- ber.	Per cent dis- tribu- tion.	Average number.	Per cent dis- tribu- tion.		Num- ber.	Per cent dis- tribu- tion.	Average number.	Per cent dis- tribu- tion.
<b>BASALT.....</b>	163	100.0	3,336	100.0	<b>GOLD, PLACER MINES.....</b>	112	100.0	1,380	100.0
No wage earners.....	2	1.2	.....	.....	No wage earners.....	34	30.4	.....	.....
1 to 5.....	36	22.1	115	8.4	1 to 5.....	47	42.0	112	8.1
6 to 20.....	67	41.1	782	23.4	6 to 20.....	17	15.2	214	15.5
21 to 50.....	47	28.8	1,502	45.0	21 to 50.....	8	7.1	250	18.1
51 to 100.....	6	3.7	390	11.7	51 to 100.....	4	3.6	253	18.3
101 to 500.....	5	3.1	547	16.4	101 to 500.....	2	1.8	551	39.9
<b>GYPSEUM.....</b>	47	100.0	2,191	100.0	<b>SULPHUR.....</b>	4	100.0	1,129	100.0
1 to 5.....	4	8.5	11	0.5	6 to 20.....	1	25.0	14	1.2
6 to 20.....	14	29.8	190	8.7	101 to 500.....	2	50.0	500	44.3
21 to 50.....	15	31.9	506	23.1	501 to 1,000.....	1	25.0	615	54.5
51 to 100.....	8	17.0	518	23.6					
101 to 500.....	6	12.8	968	44.1					
<b>MARBLE.....</b>	43	100.0	1,732	100.0					
No wage earners.....	1	2.1	.....	.....					
1 to 5.....	4	8.3	12	0.7					
6 to 20.....	20	41.7	250	14.4					
21 to 50.....	18	33.3	531	30.7					
51 to 100.....	2	4.2	147	8.5					
101 to 500.....	5	10.4	792	45.7					

The very small enterprises,\* employing no wage earners or from 1 to 20 men each, were most numerous. Enterprises in these classes constituted nearly three-fourths of the total for the United States, but the wage earners employed were only 6.2 per cent of the total number of wage earners. In the mining and quarrying industries, exclusive of petroleum and natural gas, the very small enterprises constituted little more than half of the total number of enterprises and those enterprises having 1 to 20 wage earners employed 4.3 per cent of the average number of wage earners in these industries; whereas, in the petroleum and natural-gas industry the small enterprises constituted approximately 95 per cent of all enterprises, and the wage earners employed were 21.3 per cent of the total average number of wage earners in the industry. On the other hand, 76 per cent of the total average number of wage earners were employed by enterprises having more than 100 men although such enterprises constituted only 9.5 per cent of the total number of enterprises.

A relatively large number of small enterprises is characteristic of each of the mining industries, but the ratio of small enterprises to large enterprises varies in different industries. The percentage of small enterprises, that is, those having no wage earners or fewer than 101 each, ranged from 25 per cent in the sulphur-mining industry to 98.8 per cent in the clay industry. The industries in which very large enterprises, those employing more than 1,000 wage earners each, were relatively numerous were: Anthracite-coal mining in which 71.3 per cent of all wage earners were employed by 22 enterprises; copper mining in which 54.9 per cent were employed by 11 enterprises; lead and zinc mining in which 24.4 per cent were employed by 4 enterprises; and bituminous-coal mining in which 16.5 per cent of the total number

of wage earners were employed by 45 enterprises. In the petroleum and natural-gas industry the concentration of wage earners in large enterprises is not as marked as indicated in the table because the table is based on consolidated returns from large operators which combined data for several individual operations each of which was considerably smaller than the size shown for these larger enterprises in the table.

## PERSONS ENGAGED IN MINING INDUSTRIES.

Persons according to occupational classes, sex, and age.—Table 16 shows the persons engaged in producing mining enterprises in the United States in various occupational classes and grouped according to sex, and also shows the number of wage earners over and under 16 years of age. For persons employed in clerical and supervisory capacities the numbers shown are for December 15 or the nearest representative day and for wage earners the number shown is the average number. The figures given for male and female wage earners and those under 16 years of age are estimated parts of the total average number of wage earners proportional to the numbers of females and persons under 16 years of age reported among the wage earners on December 15 or the nearest representative day.

TABLE 16.—PERSONS ENGAGED IN PRODUCING ENTERPRISES: 1919.

CLASS.	Total.	Male.	Female.
All classes.....	1,077,675	1,065,051	12,624
Proprietors and officials.....	60,409	58,330	2,079
Proprietors and firm members.....	21,918	20,231	1,687
Salaried officers of corporation.....	10,456	10,202	254
Superintendents and managers.....	21,704	21,648	56
Technical employees.....	6,331	6,249	82
Clerks and other subordinate salaried employees...	35,706	25,649	10,057
Wage earners (average number).....	981,660	981,072	488
Wage earners 16 years of age and over.....	981,561	980,873	488
Wage earners under 16 years of age.....	199	199	.....

Women constituted only 1.2 per cent of the total number of persons in the industries. Approximately 80 per cent of them were employed as clerks or other subordinate salaried employees and a very few were reported as wage earners.

Of the whole number of persons engaged in producing enterprises, 2 per cent were proprietors and firm members, 1 per cent were salaried officers, 2 per cent were superintendents and managers, 3.3 per cent were clerks and other subordinate salaried employees, and 91.1 per cent were wage earners.

Table 17 shows for the 17 most important mining industries the principal classes of persons engaged in the producing enterprises and the per cent of the total in each group. The proportion of proprietors and officials is as a rule small and is less than 10 per cent in all industries except gold-placer mining and petroleum and natural-gas production. The proportion of clerks and other subordinate salaried employees is also small. The proportion of wage earners ranges from 74.5 per cent in the petroleum and natural-gas industry to 95.2 per cent in anthracite-coal mining. The proportion of wage earners employed in metal mining as a whole is somewhat smaller than the proportion in coal mining and slightly larger than the proportion in stone quarrying.

TABLE 17.—PERSONS ENGAGED IN PRODUCING ENTERPRISES, BY INDUSTRIES: 1919.

INDUSTRY.	Total.	Proprietors and officials.	Clerks and other subordinate salaried employees.	Wage earners (average number).	PER CENT OF TOTAL.		
					Proprietors and officials.	Clerks and other subordinate salaried employees.	Wage earners.
All industries.....	1,077,675	60,409	35,706	981,560	5.6	3.3	91.1
Coal:							
Anthracite.....	154,882	4,120	3,390	147,372	2.7	2.2	95.2
Bituminous.....	583,608	22,403	15,407	545,798	3.8	2.6	93.5
Petroleum and natural gas.....	125,110	22,187	9,718	93,205	17.7	7.8	74.5
Iron ore.....	48,767	1,286	1,740	45,741	2.6	3.6	93.8
Copper.....	46,999	1,601	1,881	43,717	3.4	3.6	93.0
Limestone.....	24,705	1,727	909	22,069	7.0	3.7	89.3
Lead and zinc.....	24,030	1,374	772	21,884	5.7	3.2	91.1
Gold and silver, lode mines.....	17,531	1,693	402	15,436	9.7	2.3	88.0
Granite.....	8,951	696	206	8,049	7.8	2.3	89.9
Clay.....	6,087	480	174	5,453	7.6	2.9	89.6
Sandstone.....	4,897	434	176	4,287	8.9	3.6	87.5
Phosphate rock.....	4,761	223	165	4,373	4.7	3.5	91.9
Slate.....	3,852	269	70	3,513	7.0	1.8	91.2
Basalt.....	3,791	310	145	3,336	8.2	3.8	88.0
Gypsum.....	2,477	103	183	2,191	4.2	7.4	88.5
Marble.....	1,891	96	63	1,732	5.1	3.3	91.6
Gold, placer mines.....	1,651	232	39	1,380	14.1	2.4	83.6
Sulphur.....	1,273	59	85	1,129	4.6	6.7	88.7

**Proprietors performing manual labor.**—Table 18 gives for 15 principal mining industries the number and percentage of proprietors and firm members who performed manual labor compared with the total number. It would appear from the fact that out of a total of 21,918 proprietors and firm members, 5,245, or nearly one-fourth, were personally performing manual labor in or about their enterprises in 1919, that

there was a considerable number of enterprises operated without the assistance of hired help or with little help. The industries in which proprietors performing manual labor were relatively most numerous include copper mining, gold, and silver lode-mining, and placer mining, in each of which industries more than half of the proprietors and firm members were working in their own mines; and bituminous-coal mining, lead and zinc mining, and granite quarrying in which nearly one-half of all proprietors belonged to this class. The petroleum and natural-gas industry reported the largest absolute number of proprietors and firm members performing manual labor, but these constituted a comparatively small percentage of the total number in that industry.

TABLE 18.—PROPRIETORS AND FIRM MEMBERS, PRODUCING ENTERPRISES: 1919.

INDUSTRY.	Total.	PERFORMING MANUAL LABOR.	
		Num-ber.	Per cent.
All industries.....	21,918	5,245	23.9
Coal:			
Anthracite.....	159	34	21.4
Bituminous.....	4,237	1,830	43.2
Petroleum and natural gas.....	14,223	1,937	14.0
Iron ore.....	41	9	21.9
Copper.....	103	62	60.2
Lead and zinc.....	412	183	45.1
Gold and silver, lode mines.....	712	485	68.1
Limestone.....	633	175	27.6
Granite.....	328	145	44.2
Sandstone.....	170	53	30.6
Clay.....	187	48	25.7
Basalt.....	77	20	26.1
Gold, placer mines.....	122	77	63.1
Gypsum.....	4	3	75.0
Slate.....	64	21	32.8
Marble.....	7	3	42.9

**Wage earners, by occupations.**—Table 19 gives for all mining industries, and for the 17 most important industries separately, the number of wage earners in producing mines, classified by occupations, and segregates those who work above and below ground. This classification serves to distinguish those engaged in the more peculiarly mining occupations from another skilled class (including the groups "Enginemen, motormen, hoistmen, firemen, machinists, electricians, carpenters, and other mechanics"), on the one hand, and from the less skilled ("Muckers, loaders, laborers, and others not classified"), on the other hand.

Miners, quarrymen, cutters, and drillmen, including their helpers, constituted the most numerous class of wage earners in 1919, representing 39.2 per cent of the whole number employed in all industries combined. The percentage in this class in all industries, except in the petroleum and natural-gas industry in which they are not represented, was 43.2. The class of wage earners included under the heading "Muckers, loaders, laborers, and others not classified" was the next most numerous class, and the third was the class "Enginemen, hoistmen, electricians, mechanics, etc."



## MINES AND QUARRIES.

TABLE 19.—WAGE EARNERS, BY OCCUPATIONS, PRODUCING ENTERPRISES: 1919.

INDUSTRY	NUMBER OF WAGE EARNERS DEC. 15TH OR NEAREST REPRESENTATIVE DAY.													
	All classes.			Foremen, shift bosses, etc.		Enginemen, motormen, hoistmen, firemen, machinists, electricians, carpenters, and other mechanics.		Miners, cutters, quarrymen, and drillmen, including their helpers.		Timbermen, trackmen, and all men engaged in hauling, tramping, and caging.		Muckers, loaders, laborers, and others not classified.		In mills and beneficiating plants.
	Total.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.
All industries.....	1,088,180	382,766	705,423	10,314	15,437	134,117	30,145	30,702	395,398	25,533	138,491	135,239	125,952	46,811
Coal, total.....	769,640	155,364	614,282	5,082	12,020	43,123	26,775	7,108	354,485	17,503	116,805	59,437	104,197	23,051
Anthracite.....	152,243	40,618	105,625	435	1,093	10,488	4,331	138	59,401	2,769	17,325	12,291	23,470	20,497
Bituminous.....	617,403	108,746	508,657	4,647	10,922	32,635	22,444	7,025	295,084	14,733	99,480	47,152	80,727	2,554
Petroleum and natural gas.....	100,980	100,980	.....	.....	.....	64,230	.....	.....	.....	.....	.....	36,750	.....	.....
Iron ore.....	47,740	19,050	28,690	789	878	6,526	1,053	1,354	15,326	1,677	5,495	7,436	5,938	1,293
Copper.....	45,809	20,105	25,704	807	1,137	6,167	1,254	1,185	9,455	1,005	8,115	4,352	5,743	6,589
Lead and zinc.....	26,168	9,471	16,697	360	573	2,573	362	109	6,857	304	4,361	1,477	4,544	4,636
Limestone.....	26,052	24,272	780	957	10	3,278	53	8,433	204	1,030	104	8,716	400	958
Gold and silver, lode mines.....	17,323	5,830	11,492	313	485	1,713	515	208	4,980	296	2,202	1,339	3,310	1,961
Granite.....	9,166	9,166	.....	379	.....	858	.....	3,736	.....	544	.....	1,621	.....	2,028
Clay.....	6,302	4,547	1,755	174	57	349	25	815	1,066	426	400	2,527	207	256
Phosphate rock.....	5,913	5,704	149	201	3	1,154	.....	908	116	443	7	2,577	23	331
Sandstone.....	4,851	4,851	.....	197	.....	405	.....	1,599	.....	304	.....	1,621	.....	735
Slate.....	3,973	3,242	731	133	36	371	3	811	488	200	54	792	150	935
Basalt.....	3,799	3,799	.....	144	.....	473	.....	1,120	.....	192	.....	1,828	.....	42
Gypsum.....	2,555	1,381	1,175	37	40	105	40	159	445	25	203	239	442	816
Marble.....	1,856	1,856	.....	66	.....	150	.....	703	.....	41	.....	307	.....	529
Sulphur.....	1,622	1,615	7	43	.....	873	.....	.....	2	.....	.....	692	5	2
Gold, placer mines.....	1,534	1,459	75	103	4	463	.....	122	.....	37	4	729	7	2

<sup>1</sup> Includes well drillers and pumpers.

In all the mining industries combined approximately 35 per cent of the wage earners were employed above ground and 65 per cent below ground. Excluding the petroleum and natural-gas industry, which employs no mining labor and none below ground, and also excluding wage earners employed in mills and beneficiating plants, approximately 75 per cent of the remaining 940,398 wage earners employed in mining worked below ground. The proportion below ground was greatest (five-sixths) in bituminous-coal mining. For the combined stone industries 3.1 per cent of all wage earners engaged in quarrying operations were employed below ground. These were in the limestone and slate industries only, as the granite, sandstone, basalt, and marble enterprises reported in 1919 were exclusively surface operations.

**Persons not counted.**—In addition to the persons in supervisory capacities and to the wage earners regularly and directly employed in mining industries there were other persons employed who were not enumerated in the census of mines and quarries. These were the persons engaged in that part of the work which was done by contract and also the wage earners employed directly by the reporting enterprises but which employed them only occasionally or for part time. The number of wage earners employed by contractors and also the number of persons in supervisory capacities employed in connection with contract work could not be ascertained. First, because the reporting operators could not make accurate returns and were not required to attempt to make such returns for the contractors engaged by them, and second, because the contract work is commonly temporary and the same

men are from time to time shifted from one enterprise to another. This is particularly true of well drilling in the petroleum and natural-gas industry.

The relative importance of work done and hence of the number of persons engaged under contract as compared with the work performed by regular wage earners may be inferred from a comparison of the total amount paid out in wages with the total expenditure for contract work. The total amount paid by producing enterprises in 1919 for contract work was \$79,380,177, a large part of which was cost of labor, and should be compared with \$1,295,936,326 paid to wage earners employed directly.

Some small enterprises dispense with the services of regular wage earners by hiring occasional help or employ wage earners for part time only. The 1919 census includes 1,933 such enterprises in industries as follows:

Bituminous coal.....	33
Petroleum and natural gas.....	1,895
Iron ore.....	1
Gold and silver, lode mines.....	1
Lead and zinc.....	3

No wage earners have been counted for these enterprises, but the amounts paid by them in wages have been included in the tabulations.

**Wage earners, by months.**—Table 20 shows the number of wage earners reported for the 15th day of each month or the nearest representative day in producing enterprises in all mining industries combined and in the 17 leading industries separately. The table also shows the average number of wage earners, the months of minimum and maximum employment, and the ratio of the minimum to the maximum number.



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TABLE 20.—WAGE EARNERS, BY MONTHS, FOR LEADING INDUSTRIES, PRODUCING ENTERPRISES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	981,560	1,025,871	985,369	969,499	952,305	958,506	965,230	1,005,219	1,031,628	1,043,719	1,051,204	<i>758,156</i>	1,032,014	72.1
Coal:														
Anthracite.....	147,372	146,241	145,985	143,437	<i>142,691</i>	144,925	145,010	143,297	149,220	149,522	150,847	150,594	151,595	94.1
Bituminous.....	545,798	589,864	561,861	550,126	532,682	535,110	541,647	566,897	583,120	593,304	<b>599,550</b>	<i>508,266</i>	587,149	51.4
Petroleum and natural gas.....	93,205	85,225	<i>85,119</i>	87,130	88,120	90,015	91,156	94,389	98,570	99,570	99,332	99,541	100,293	84.9
Iron ore.....	45,741	47,493	47,205	46,712	44,822	45,631	44,625	46,286	46,764	46,911	45,772	44,126	<i>42,556</i>	89.6
Copper.....	43,717	58,025	49,136	43,701	40,675	38,374	<i>37,885</i>	39,919	41,386	42,595	44,395	45,246	43,267	65.3
Limestone.....	22,069	18,085	<i>17,898</i>	18,847	21,476	22,992	23,667	24,599	25,655	25,303	23,901	23,538	20,367	67.8
Lead and zinc.....	21,884	25,124	23,434	22,574	21,506	20,196	<i>19,049</i>	20,207	21,050	21,162	21,579	22,631	23,196	79.4
Gold and silver, lode mines.....	15,436	<i>14,778</i>	14,915	15,095	14,921	15,184	15,540	16,319	16,469	15,349	15,536	15,456	15,670	89.7
Granite.....	8,049	<i>8,600</i>	8,844	6,504	7,771	8,620	8,945	9,071	8,228	9,024	9,101	8,741	8,070	61.4
Clay.....	5,453	4,849	<i>4,681</i>	4,851	5,373	5,522	5,582	5,771	5,883	6,020	5,853	5,538	5,513	77.8
Phosphate rock.....	4,373	4,583	4,865	4,741	4,972	3,259	<i>2,902</i>	3,419	3,873	4,094	4,639	5,358	5,771	50.3
Sandstone.....	4,287	3,471	<i>3,305</i>	3,681	4,128	4,411	4,533	4,667	4,961	4,916	4,726	4,598	4,047	66.6
Slate.....	3,513	<i>2,852</i>	2,909	3,060	3,415	3,580	3,764	3,858	3,572	3,594	3,729	3,896	3,127	72.6
Basalt.....	3,336	<i>2,037</i>	<i>2,037</i>	2,456	3,257	3,680	3,828	3,985	4,037	3,906	3,908	3,710	3,131	49.7
Gypsum.....	2,191	<i>1,674</i>	1,649	1,782	1,918	2,078	2,092	2,350	2,327	2,582	2,713	2,715	2,512	58.0
Marble.....	1,732	<i>1,459</i>	1,497	1,641	1,688	1,778	1,826	1,833	1,865	1,810	1,875	1,759	1,753	77.8
Gold, placer mines.....	1,360	<i>1,274</i>	1,312	<i>1,274</i>	1,317	1,424	1,420	1,439	1,430	1,401	1,425	1,433	1,348	85.0
Sulphur.....	1,129	1,492	1,390	1,406	1,545	1,593	<i>814</i>	832	845	883	932	973	933	52.7

For all industries combined the largest number of wage earners, 1,051,204, was reported for October and the smallest number, 758,156, or 72.1 per cent of the maximum, for November. It should be noted that these are the months of minimum and maximum in 1919 for the bituminous-coal mining industry which dominates all mining industries in the United States. (Bituminous-coal mining reported 55.6 per cent of the total average number of wage earners, 57 per cent of the maximum, and 40.7 per cent of the minimum number for all industries). The months of minimum and maximum employment in bituminous-coal mining, and therefore for the combined mining industries in the United States, were unusual on account of the great coal strike. Normally a winter month has been the month of maximum employment and a spring month the month of minimum employment in the bituminous-coal mining industry. Anthracite mining shows greater regularity of employment and the year 1919 was normal in this industry. For the copper, iron ore, and lead and zinc industries the table reflects depressed conditions following a period of heavy employment at the beginning of the year which marked the final stage of the war boom in these industries. For most of the remaining industries the month of maximum employment was, as would appear to be normal, in the summer or fall of the year. The gypsum, phosphate-rock, and slate industries, however, show maxima in November and December, because these industries began toward the close of the year to recover from depressed conditions—in the gypsum and slate industries caused by the war restrictions on the consumption of structural material, and in the phosphate-rock industry caused largely by labor difficulties.

Prevailing hours of labor.—In Table 21 the producing enterprises in the leading mining industries are classified according to the prevailing hours of labor per week and the number of wage earners in each group are shown. The wage earners of each enterprise are classed as a whole regardless of the fact that some worked more or fewer hours than those prevailing for the majority. For all industries combined, in a majority of enterprises employing wage earners and for nearly three-fourths of the wage earners, the prevailing hours of labor were 44 to 53 per week and for the most part the 8-hour day and 6-day week prevailed. In nearly one-third of the enterprises but for less than one-fifth of the wage earners the prevailing hours were 54 to 62 per week, which for the most part meant the 10-hour day and 6-day week. In the coal-mining industry the 44 to 53 hour week was the rule, although a considerable number of bituminous-coal enterprises employing relatively few wage earners worked shorter hours and certain classes of small anthracite enterprises worked longer hours. In the petroleum and natural-gas industry longer hours were the rule. Nearly half the wage earners worked from 54 to 62 hours per week and more than one-third had longer hours. In the metal-mining industries hours ranging from 44 to 53 and from 54 to 62 per week were most commonly reported. In some parts of the country in these industries the 8-hour day and 6-day week prevailed and in others the 10-hour day and 6-day week was the rule. In the quarrying industries as a whole the prevailing hours of labor were from 54 to 62 per week and the 10-hour day and 6-day week was the most commonly reported, but the granite-quarrying industry was an exception to this rule in that a majority of enterprises and wage earners had shorter hours.

TABLE 21.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR LEADING INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—											
			35 and under.		35 to 43.		44 to 53.		54 to 62.		63 to 71.		72 to 84.	
	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.
All industries.....	117,558	981,560	1,166	17,755	732	19,856	8,862	721,899	5,202	182,126	768	26,841	768	13,083
Coal:														
Anthracite.....	252	147,372			1	215	176	145,787	71	807	3	442	1	21
Bituminous.....	6,574	545,798	257	15,978	425	17,163	5,546	485,574	331	25,222	12	1,841	3	20
Petroleum and natural gas.....	6,522	93,205	852	1,295	225	327	1,623	13,227	2,356	44,063	714	21,726	752	12,562
Iron ore.....	285	45,741	1	11	4	219	151	20,311	124	24,637	5	563		
Copper.....	179	43,717			2	7	79	21,150	97	21,166	1	1,394		
Limestone.....	870	22,069	3	57	8	24	187	3,774	663	17,934	9	280		
Lead and zinc.....	391	21,884	1	115			255	15,082	133	6,684			2	3
Gold and silver, lode mines.....	589	15,436			2	3	192	3,595	399	11,586	4	251	1	1
Granite.....	338	8,049	4	43	32	1,195	209	4,829	91	1,948	2	34		
Clay.....	319	5,453	8	27	6	33	142	2,351	161	3,033	1	4	1	5
Phosphate rock.....	47	4,373	1	5	1	30	6	309	36	3,683			3	346
Sandstone.....	246	4,287			3	8	49	433	191	3,688	3	108		
Slate.....	100	3,513			11	335	14	963	73	2,170	2	45		
Basalt.....	161	3,336	1	20	1	3	49	723	110	2,585				
Gypsum.....	47	2,191			1	1	12	830	32	1,317	2	43		
Marble.....	47	1,732					3	50	43	1,667	1	15		
Gold, placer mines.....	78	1,380					17	62	52	1,243	8	72	1	3
Sulphur.....	4	1,129							4	1,129				
All other.....	509	10,895	38	204	10	193	152	2,794	304	7,559	1	23	4	122

<sup>1</sup> Exclusive of 3,722 enterprises employing no wage earners in industries as follows: Abrasive materials, 5; asphalt, 2; barytes, 1; basalt, 2; clay, 26; chromite, 5; coal, anthracite, 2; coal, bituminous, 62; copper, 18; feldspar, 2; fluor spar, 4; granite, 20; gold and silver, lode mines, 151; gold, placer mines, 34; iron ore, 5; lead and zinc, 41; limestone, 25; magnesite, 1; marble, 1; mica, 6; millstones, 5; mineral pigments, 2; petroleum and natural gas, 3,292; phosphate rock, 1; sandstone, 9; slate, 1; talc and soapstone, 1.

## LAND TENURE.

Table 22 gives for all mining industries combined, and for the 17 leading industries separately, statistics relating to the acreage of land controlled, distinguishes the character of land and also the form of tenure of mineral land, and shows the acreage of mineral land operated.

The amount of difference between the total mineral land operated and the mineral land controlled is the acreage held under lease by some enterprises and which is also reported controlled by others who were the owners or prior lessees. This duplication does not appear in the amounts reported as mineral land operated. The aggregate of all land controlled by producing enterprises was 24,757,840 acres. The greater part of this land was mineral land, but over 2,000,000 acres, or more than one-twelfth of the total, were reported as "timber and other lands" which comprised lands held as sources of timber used in mining and land held for building sites, water resources, for tunnel and drainage purposes, and for other uses. Such lands are, however, particularly in the coal and iron-ore and copper-mining industries which reported most of the acreage of timber and other lands, held for their prospective value as mineral land. Not all of the area of mineral land reported was in actual use, for, although pertaining to mining operations reported, many large tracts included in the returns embraced extensive acreage held in reserve.

Nearly half of the total acreage controlled by mining enterprises in 1919 and more than half of the mineral

land operated was reported by the petroleum and natural-gas industry. By far the largest part (more than three-fourths) of the remainder was reported by the coal industry. The holdings of land by the iron-ore and the copper-mining industries were also very large, and for these industries as well as for the coal industry the holdings of reserve land reported under the description of "timber and other lands" were extensive.

TABLE 22.—LAND OPERATED AND CONTROLLED, PRODUCING ENTERPRISES: 1919.

	Mineral land operated.	LAND CONTROLLED (ACRES).				
		Total.	Mineral land.			Timber and other lands.
			By owner-ship.	By lease.	Per cent owned.	
All industries.....	22,474,069	24,757,840	8,568,590	13,980,731	38.0	2,208,519
Coal:						
Anthracite.....	261,355	432,055	194,300	77,955	71.4	159,710
Bituminous.....	8,261,372	9,073,080	5,793,651	2,528,582	63.9	751,473
Petroleum and natural gas.....	12,171,388	12,171,388	1,172,068	10,999,320	9.6	
Iron ore.....	241,508	938,716	177,296	65,280	73.1	696,140
Copper.....	392,811	648,703	378,839	14,045	96.4	255,819
Lead and zinc.....	135,282	182,509	99,338	36,118	73.3	47,053
Gold and silver, lode mines.....	142,573	188,937	113,347	29,424	79.4	46,166
Limestone.....	122,820	175,985	84,717	38,306	68.9	52,963
Granite.....	30,659	37,747	23,799	6,950	77.4	6,998
Sulphur.....	12,946	20,511	12,946			7,565
Sandstone.....	48,729	56,802	34,726	15,435	69.2	6,641
Phosphate rock.....	160,447	241,810	156,418	4,029	97.5	81,363
Clay.....	105,706	112,801	70,498	35,263	66.7	7,040
Basalt.....	15,625	17,514	7,139	8,486	45.7	1,889
Gold, placer mines.....	62,857	79,817	51,219	11,738	81.4	16,860
Gypsum.....	41,703	42,193	36,581	5,122	87.7	490
Slate.....	5,440	8,245	3,673	1,767	67.5	2,890
Marble.....	28,969	35,250	11,818	17,159	40.8	6,273

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Of the total amount of land controlled by producing enterprises 38 per cent was owned by the operators themselves and the remainder was held under lease. The petroleum and natural-gas industry, which reported most of the land as held under lease, presents a marked contrast to all the other industries shown in this table. Considering only the mineral land controlled in mining and quarrying, about 70 per cent was owned by the operators. In the coal industry this proportion was also about 70 per cent. In the other industries it ranged from 40.8 per cent in the marble industry and 45.7 per cent in the basalt industry to 96.4 per cent in the copper-mining industry and 97.5 per cent in the phosphate-rock industry.

## POWER.

Table 23 shows for all mining industries combined, and for the leading mining industries separately, the number and horsepower of prime movers of various kinds and the number and horsepower of electric motors used. The table shows separately the number and horsepower of motors operated by purchased current and of those run by current generated by the enterprises reporting them. Five million horsepower, or 76 per cent of the aggregate horsepower used in mining, was furnished by prime movers and 1,600,000

horsepower, or 24 per cent, was furnished by electric motors operated by purchased current. A relatively negligible amount was obtained from power equipment of other kind operated by purchased power. As shown by the number and horsepower of electric motors run by the current generated by the enterprises reporting them, a considerable part of the horsepower of the prime movers was used indirectly through electric current generated in the enterprises reporting them. Of the total horsepower of prime movers more than three-fifths was in steam engines (not turbines) and nearly one-fourth was in internal-combustion engines. Steam turbines furnished a relatively small part of the power—chiefly for bituminous-coal mines and copper mines. Water power was used to only a small extent. Nearly all of the great number of internal-combustion engines were used in the petroleum and natural-gas industry.

The coal-mining industry reported 45.4 per cent of the aggregate horsepower used; the petroleum and natural-gas industry, 27.1 per cent; the copper industry, 7.8 per cent; the iron-ore mining industry, 5.5 per cent; the lead and zinc industry, 3.4 per cent; the limestone industry, 3.2 per cent; and the gold and silver-lode-mining industry, 2.2 per cent. The proportion used in other industries was small.

TABLE 23.—POWER USED, PRODUCING ENTERPRISES: 1919.

INDUSTRY.	Aggregate horse- power.	PRIME MOVERS.								EQUIPMENT OPERATED BY PURCHASED POWER.			ELECTRIC MOTORS RUN BY CURRENT GENERATED BY THE ENTERPRISE REPORTING.		
		Total horse- power.	Steam engines (not turbines).		Steam turbines.		Internal-combus- tion engines.		Water wheels and turbines.		Electric motors.				Other.
			Num- ber.	Horse- power.	Num- ber.	Horse- power.	Num- ber.	Horse- power.	Num- ber.	Horse- power.	Num- ber.	Horse- power.	Horse- power.	Num- ber.	
All industries .....	6,723,783	5,111,531	46,433	3,238,288	553	473,985	56,988	1,361,146	267	38,112	40,500	1,603,390	8,865	32,980	1,258,795
Coal:															
Anthracite.....	899,783	782,090	5,298	730,141	45	50,665	73	1,284	.....	.....	1,881	117,693	.....	3,801	185,723
Bituminous.....	2,155,412	1,383,934	9,177	1,166,862	313	195,779	1,246	21,219	9	74	21,186	771,131	347	21,044	707,341
Petroleum and natural gas..	1,821,342	1,770,181	23,412	532,734	.....	.....	53,699	1,237,407	2	40	1,841	44,638	6,523	1,329	28,164
Iron ore.....	370,869	273,477	2,333	231,184	25	28,521	45	5,397	22	8,375	1,341	97,382	10	1,112	67,595
Copper.....	523,591	386,458	842	245,398	79	123,223	129	16,327	10	1,510	3,647	135,968	1,165	3,252	161,024
Lead and zinc.....	229,541	117,527	411	42,821	21	35,420	433	35,415	30	3,871	2,389	111,874	140	625	22,884
Gold and silver lode mines..	149,680	50,437	182	20,133	4	4,750	370	11,149	135	14,405	2,523	98,663	580	494	18,892
Limestone.....	213,717	126,387	1,776	109,778	17	10,701	252	5,043	9	865	2,046	87,330	.....	287	11,431
Granite.....	55,674	34,711	744	30,231	3	2,360	84	1,343	4	777	450	20,903	60	34	1,520
Sulphur.....	15,291	15,291	544	11,581	23	3,320	13	390	.....	.....	.....	.....	.....	50	1,284
Sandstone.....	33,869	21,197	340	19,081	.....	.....	71	2,116	.....	.....	386	12,672	.....	155	4,696
Phosphate rock.....	49,639	46,976	100	17,140	17	17,751	44	12,085	.....	.....	38	2,693	.....	320	33,107
Clay.....	21,243	16,932	263	15,653	1	100	105	1,179	.....	.....	181	4,271	40	66	1,815
Basalt.....	37,307	22,844	269	21,099	3	1,225	30	520	.....	.....	255	14,463	.....	11	1,049
Gold, placer mines.....	35,632	3,406	2	40	.....	.....	16	719	25	2,647	624	32,226	.....	22	601
Gypsum.....	15,032	7,038	47	6,132	.....	.....	9	572	3	334	290	7,994	.....	103	1,447
Slate.....	20,613	8,778	193	8,609	.....	.....	1	8	2	101	426	11,835	.....	4	44
Marble.....	15,628	6,021	85	5,619	.....	.....	2	15	3	387	408	9,607	.....	19	480

## FUEL USED.

Table 24 shows for all mining industries combined, and for the leading industries separately, the quanti-

ties of the various kinds of fuel used. In order of importance as measured by the aggregate consumption in all industries the fuels were: Bituminous coal, anthracite, natural gas, and fuel oils.

TABLE 24.—FUEL USED, BY PRODUCING ENTERPRISES: 1919.

INDUSTRY.	COAL.		Coke (tons, 2,000 pounds).	Wood (cords).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Natural gas (1,000 cubic feet).
	Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).					
All industries.....	8,697,365	16,275,751	53,795	113,850	9,537,443	143,593	<sup>1</sup> 102,784,812
Coal:							
Anthracite.....	8,548,201	4,096			671	1,381	
Bituminous.....		11,124,904	14,254	594	3,235	18,903	865,907
Petroleum and natural gas.....		67,216		2,852	5,898,610	45,654	99,967,358
Iron ore.....	69,753	1,499,612	24,070	912	3,807	3,550	<sup>1</sup> 89,354
Copper.....	14,839	1,364,172	9,744	5,236	1,322,100	6,932	33,450
Lead and zinc.....	33,525	503,278	272	3,570	72,517	6,261	1,890,098
Gold and silver, lode mines.....	45	191,526	360	17,755	130,269	15,821	
Limestone.....	5,499	673,989	937	4,765	33,221	11,397	5,887
Granite.....	1,723	115,250	55	4,297	13,164	2,411	
Sulphur.....		308	20		1,087,736	740	
Sandstone.....	2,418	128,832	1,530	160	8,621	1,423	145,943
Phosphate rock.....	28	121,273	148	39,961	657,284	10,871	
Clay.....	345	84,065		1,424	51,646	1,819	9,009
Basalt.....	2,099	84,666		2,129	15,390	620	
Gold, placer mines.....	72	992	1	1,691	114	491	
Gypsum.....		76,086	1,534	43	62,593	1,752	
Slate.....	8,762	34,053		214	36	1	
Marble.....	210	31,158		323		170	
All other.....	9,885	170,375	863	27,924	176,129	13,336	277,800

<sup>1</sup> 89,354 M cubic feet reported for the iron-ore industry was manufactured gas.

ENTERPRISES OPERATED BY GOVERNMENTAL INSTITUTIONS.<sup>1</sup>

Reports were obtained by the 1919 census of mines and quarries from 145 governmental institutions, including Federal, state, county, and municipal organizations, and from 1 other noncommercial mining enterprise. Enterprises operated by governmental institutions differ in their organization and methods of management from commercial enterprises. Statistics relating to them were therefore omitted from the general tabulation and are presented as a separate group. Table 25 presents the principal statistics for these enterprises grouped according to the character of labor employed. Eleven were operated by penal institutions and used convict labor, and the remainder were operated with hired labor. The statistics for all enterprises in these classes do not include, under persons engaged, the convicts whose services were utilized in the operations of the enterprise, nor other persons whose services were partly given to the mining operations in question but were chiefly engaged by other activities of the operating institution. They do include, however, salaried employees engaged in supervisory work and the guards or other prison officials who were employed in guarding the prisoners while at work. The total value of the products reported

<sup>1</sup> Includes, to avoid disclosure of the individual operation, one other form of noncommercial enterprise.

by the penal institutions was \$479,165, which represented 17.5 per cent of the total product reported by the entire number of enterprises operated by governmental agencies.

In Table 26 the principal statistics for enterprises operated by governmental institutions are given for all industries in the United States combined and by industries and by states separately. Nine of the enterprises included in this group operated coal mines and mined nearly 175,000 short tons of coal valued at \$469,745; 15, which were municipal enterprises, operated natural-gas wells; and the remainder, which included most of the enterprises, were stone quarries operated largely by state and county authorities in connection with road building and some in connection with Federal engineering projects.

The most important enterprises in this group were in the states of Tennessee, California, Pennsylvania, and Oregon. The total value of products reported from these four states represented more than half of the total value of products of all governmental institutions reported. In Tennessee the principal enterprise was a coal mine operated by the state penitentiary. In California and Pennsylvania the principal enterprises were stone quarries for road work under state control, and in Oregon, stone quarries for river and harbor work by the Federal Government.

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TABLE 25.—DETAILED STATISTICS FOR ENTERPRISES OPERATED BY GOVERNMENTAL INSTITUTIONS<sup>1</sup>: 1919.

	Total.	Penal: Operated by convict labor.	All other: Operated by hired labor.		Total.	Penal: Operated by convict labor.	All other: Operated by hired labor.
Number of enterprises.....	146	11	135	Persons engaged—Continued.			
Number of mines and quarries.....	180	11	169	Number of wage earners employed on the			
Number of wells.....	68		68	15th day of each month:			
Capital.....	\$1,998,165	\$354,500	\$1,643,665	January.....	733	168	565
Principal expenses—				February.....	740	168	572
Salaries.....	\$121,375	\$27,150	\$94,225	March.....	875	172	703
Wages.....	\$1,004,583	\$131,984	\$872,599	April.....	1,085	185	900
Supplies and materials.....	\$458,076	\$107,531	\$350,545	May.....	1,295	185	1,110
Fuel.....	\$85,695	\$28,502	\$57,193	June.....	1,370	180	1,190
Purchased power.....	\$19,619	\$3,636	\$15,983	July.....	1,315	184	1,131
Royalties and rents.....	\$57,530	\$1,500	\$56,030	August.....	1,370	180	1,190
Contract work.....	\$387,479	\$41,107	\$346,372	September.....	1,230	185	1,045
Value of products.....	\$2,741,285	\$479,165	\$2,262,120	October.....	1,111	185	926
Persons engaged—				November.....	991	184	807
Superintendents and managers.....	78	10	68	December.....	851	184	667
Technical employees.....	7	2	5	Power used (aggregate horsepower).....	7,690	2,282	5,408
Clerks and other subordinate salaried employees.....	27	5	22	Prime movers:			
Wage earners (average number).....	1,082	181	901	Steam engines—			
Wage earners, December 15 or nearest representative day:				Number.....	135	8	127
Above ground.....	1,685	179	1,506	Horsepower.....	4,278	1,490	2,818
Below ground.....	110	6	104	Internal-combustion engines—			
Wage earners by occupations:				Number.....	47	3	44
Foremen, etc.....	175	112	63	Horsepower.....	776	42	734
Engineers, firemen, hoistmen, electricians, mechanics, etc.....	98	9	89	Equipment operated by purchased power:			
Miners, quarrymen, drillmen, including their helpers.....	702	24	678	Electric motors—			
Timbermen, trackmen, trammers, etc.....	71	1	70	Number.....	91	21	70
All others not classified.....	749	39	710	Horsepower.....	2,636	780	1,856
Females included in above.....	9	3	6	Electric motors operated by current generated by the enterprise reporting—			
				Number.....	8	5	3
				Horsepower.....	340	270	70
				Lands controlled (acres)—			
				Mineral lands operated.....	9,949	1,323	8,626
				Owned.....	4,200	1,313	2,887
				Leased.....	3,659	10	3,649
				Timber and other lands.....	95	88	7

<sup>1</sup> Includes 1 noncommercial enterprise not governmental.TABLE 26.—PRINCIPAL STATISTICS BY INDUSTRIES AND STATES, FOR ENTERPRISES OPERATED BY GOVERNMENTAL INSTITUTIONS<sup>1</sup>: 1919.

	Number of enterprises.	Number of mines and quarries.	Number of wells.	PERSONS ENGAGED.		Power used (aggregate horsepower).	Capital.	PRINCIPAL EXPENSES.							Value of products.
				Salaried employees.	Wage earners (average number).			Salaries.	Wages.	Contract work.	Supplies and materials.	Fuel.	Purchased power.	Royalties and rents.	
United States, all industries.....	146	180	68	112	1,082	7,690	\$1,998,165	\$121,375	\$1,004,583	\$387,479	\$458,076	\$85,695	\$19,619	\$57,530	\$2,741,285
INDUSTRIES.															
Coal, bituminous.....	9	9	.....	10	135	1,030	142,628	14,241	123,718	7,961	83,780	13,731	.....	2,401	469,745
Natural gas.....	15	.....	68	14	11	365	352,664	18,529	28,135	32,373	157,562	5,412	.....	17,409	335,900
Basalt (traprock).....	35	63	.....	22	194	2,142	350,476	15,708	230,255	118,996	40,805	21,476	4,135	2,898	451,477
Granite.....	14	14	.....	11	153	955	564,024	13,605	167,709	0,585	80,390	12,742	4,673	15,308	461,494
Sandstone.....	7	7	.....	5	30	185	40,975	880	30,094	.....	9,221	700	.....	52	44,340
Limestone.....	69	87	.....	50	559	3,023	547,398	58,412	424,675	221,564	86,222	31,634	10,811	19,402	978,323
STATES.															
California.....	11	11	.....	9	114	748	501,251	10,659	120,787	5,000	66,128	8,892	4,259	16,314	382,165
Kentucky.....	15	17	.....	11	163	610	180,267	11,365	114,519	9,129	13,567	5,555	3,100	2,400	226,241
Massachusetts.....	5	5	.....	1	45	315	37,225	866	48,967	.....	6,034	4,181	1,688	.....	70,184
Minnesota.....	4	4	.....	4	10	397	95,700	3,637	9,261	2,085	3,445	474	1,798	.....	40,792
Missouri.....	9	9	.....	2	120	175	1,500	2,601	78,071	19,568	12,101	5,780	.....	1,929	95,373
New York.....	6	5	2	6	69	569	124,114	9,203	48,853	.....	19,760	2,166	2,159	150	134,147
Ohio.....	7	2	23	13	13	155	140,044	16,800	39,400	26,323	136,203	5,350	.....	12,225	225,365
Oregon.....	22	50	.....	13	118	1,129	222,741	6,710	158,528	83,018	23,662	10,094	2,443	3,090	301,633
Pennsylvania.....	20	35	18	8	74	830	120,673	4,186	75,212	155,839	15,475	9,753	.....	11,175	304,000
South Dakota.....	4	1	4	2	4	25	64,000	.....	4,128	.....	932	.....	500	.....	18,656
Tennessee.....	5	5	.....	12	109	1,070	118,000	24,381	85,039	38,961	77,203	14,201	1,840	642	453,488
Virginia.....	5	5	.....	4	45	141	13,200	2,560	19,696	.....	1,479	694	800	2,526	75,770
West Virginia.....	3	3	.....	3	26	193	50,550	4,500	17,824	.....	4,212	2,194	.....	815	35,520
Wisconsin.....	11	11	.....	14	40	209	54,460	9,777	38,727	743	6,689	3,644	619	1,076	63,384
All other states <sup>2</sup> .....	19	17	21	10	132	1,118	268,500	13,255	154,621	46,813	66,480	12,844	1,153	5,183	321,958

<sup>1</sup> Includes 1 noncommercial enterprise not governmental.<sup>2</sup> Includes enterprises in states as follows: Alabama, 1; Arizona, 1; Arkansas, 1; Colorado, 1; Idaho, 1; Indiana, 1; Kansas, 2; Mississippi, 1; New Jersey, 2; New Mexico, 1; North Dakota, 1; Oklahoma, 1; Rhode Island, 2; Vermont, 1; and Washington, 2.

# GENERAL TABLES.

TABLE 1.—COMPARATIVE SUMMARY FOR THE UNITED STATES, BY INDUSTRIES, PRODUCING ENTERPRISES:  
1919 AND 1909.

INDUSTRY AND CENSUS YEAR.	Num- ber of enter- prises. <sup>1</sup>	Num- ber of mines, quar- ries, or wells.	Wage earners (average number).	Power used (aggregate horse- power).	PRINCIPAL EXPENSES.					Value of products.
					Salaries and wages.	Supplies and materials.	Cost of fuel and purchased power.	Royalties and rents.	Contract work.	
<b>All industries:<sup>2</sup></b>										
1919.....	21,280	.....	981,560	6,723,786	\$1,445,205,211	\$555,499,028	\$122,105,930	\$175,293,984	\$79,380,177	\$3,158,463,968
1909.....	19,915	.....	967,633	4,608,253	8640,167,630	202,729,754	45,136,550	63,973,585	28,887,898	1,238,410,322
Per cent of increase.....			1.4	45.9	125.8	174.0	170.5	174.0	174.8	155.0
<b>FUELS:</b>										
Coal—										
Anthracite—										
1919.....	254	534	147,372	899,783	223,284,942	60,171,694	13,305,952	11,766,598	1,557,845	364,084,142
1909.....	192	423	169,367	676,753	96,600,963	23,504,740	3,193,226	7,980,739	1,701,514	149,180,471
Per cent of increase.....			-13.0	33.0	130.4	156.0	316.7	47.4	-8.4	144.1
Bituminous—										
1919.....	6,636	8,282	545,798	2,155,412	751,270,106	142,432,551	37,177,169	22,295,056	2,855,966	1,145,977,565
1909.....	3,503	6,013	511,723	1,227,401	315,997,383	40,498,700	7,509,947	12,082,488	2,209,672	427,662,494
Per cent of increase.....			6.7	75.6	137.7	251.7	395.0	84.5	20.2	167.8
Petroleum and natural gas—										
1919.....	9,814	257,673	93,205	1,821,342	167,089,615	223,872,364	20,794,076	106,458,518	68,663,659	931,793,423
1909.....	7,793	166,320	36,744	1,221,069	34,333,531	49,835,890	1,444,695	21,282,820	16,736,510	185,416,684
Per cent of increase.....			153.7	49.0	389.3	349.2	1,339.4	400.2	310.3	402.5
<b>METALS:</b>										
Iron ore—										
1919.....	290	406	45,741	370,860	82,650,119	27,187,832	10,294,589	24,944,936	1,671,783	218,217,905
1909.....	176	483	47,246	346,534	33,121,418	12,597,428	4,632,289	15,174,735	2,698,842	106,947,082
Per cent of increase.....			-3.2	7.0	149.5	115.8	122.2	64.4	-38.1	104.0
Copper—										
1919.....	195	226	43,717	523,591	74,429,935	35,803,425	14,896,015	536,819	421,763	181,258,087
1909.....	161	368	51,643	376,464	53,097,007	34,315,337	13,324,157	1,789,656	644,562	134,616,987
Per cent of increase.....			-15.3	39.1	40.2	4.3	11.6	-70.0	-34.6	34.6
Gold and silver, lode mines—										
1919.....	740	799	15,436	149,680	26,823,418	17,709,188	3,959,260	1,015,719	1,237,043	58,832,330
1909.....	1,604	2,345	20,428	200,966	34,665,751	20,552,244	5,105,253	1,163,985	3,693,984	83,885,928
Per cent of increase.....			-47.5	-25.5	-22.6	-13.8	-22.4	-12.7	-65.7	-29.9
Gold, placer mines—										
1919.....	112	132	1,380	35,632	2,850,895	2,244,728	1,144,333	85,899	132,807	9,368,661
1909.....	678	880	3,084	27,278	3,100,347	2,194,444	675,602	141,716	99,582	10,237,252
Per cent of increase.....			-55.3	30.6	-24.2	2.3	69.4	-39.4	33.5	-8.5
Lead and zinc—										
1919.....	432	473	21,884	229,541	34,543,250	15,717,599	5,375,165	5,258,387	863,471	75,679,347
1909.....	977	1,142	16,807	110,559	11,670,223	6,783,070	2,400,724	2,301,860	197,259	31,365,094
Per cent of increase.....			30.2	107.6	198.6	131.7	123.9	128.4	337.7	141.0
Manganese—										
1919.....	35	37	909	5,800	1,220,003	447,833	98,335	183,087	149,237	2,188,312
1909.....	5	14	60	215	20,425	4,741	854	2,152	31,216	31,216
Per cent of increase.....			1,415.0	2,597.7	5,873.1	9,346.0	11,414.6	8,407.8	.....	6,910.2
Quicksilver—										
1919.....	26	26	748	2,007	1,048,929	403,269	157,064	45,194	7,973	1,803,484
1909.....	12	12	544	784	486,125	180,847	84,531	5,268	9,878	868,458
Per cent of increase.....			37.5	232.5	115.8	208.2	188.0	757.9	-18.3	107.7
Rare metals—										
1919.....	22	22	633	3,544	909,980	580,649	86,908	45,396	7,878	1,725,642
1909.....	26	132	631	3,237	485,151	153,269	126,325	1,375	41,476	968,238
Per cent of increase.....			19.2	9.5	87.6	278.8	-31.2	3,201.5	-81.0	78.2
<b>STONE:</b>										
Limestone—										
1919.....	895	925	22,069	213,717	27,652,025	10,968,220	4,176,390	667,751	665,557	52,943,924
1909.....	1,665	1,916	30,289	125,024	15,800,181	3,754,125	1,507,628	488,919	201,880	20,832,492
Per cent of increase.....			-27.1	70.9	75.0	192.2	177.0	36.6	229.7	77.5
Granite—										
1919.....	358	381	8,049	55,674	9,784,115	2,593,040	1,094,821	139,202	118,637	18,279,345
1909.....	707	826	18,744	61,095	12,181,727	1,921,912	757,078	194,349	65,744	18,997,970
Per cent of increase.....			-57.1	-8.9	-19.7	34.9	44.6	-28.4	80.5	-3.8
Sandstone—										
1919.....	255	276	4,287	33,869	5,279,444	1,664,432	848,262	131,970	54,161	10,684,969
1909.....	1,158	1,314	9,812	30,556	5,352,818	1,089,969	349,180	154,513	79,456	9,290,829
Per cent of increase.....			-56.3	-7.4	-1.4	60.0	142.9	-14.6	-31.8	15.0
Basalt—										
1919.....	163	174	3,336	37,307	4,742,554	2,030,869	719,988	250,199	41,406	9,657,977
1909.....	196	220	5,256	29,211	2,896,058	1,018,090	279,082	282,501	60,204	5,578,317
Per cent of increase.....			-38.6	27.7	64.3	99.5	158.0	-11.4	-31.2	73.1
Slate—										
1919.....	101	104	3,513	20,613	3,537,504	632,459	417,459	157,788	95,633	5,720,792
1909.....	185	219	8,803	29,777	4,494,132	521,761	327,397	271,252	28,962	6,054,174
Per cent of increase.....			-80.1	-30.8	-21.3	21.2	27.5	-41.8	230.2	-5.5
Marble—										
1919.....	48	62	1,732	15,628	1,706,559	552,439	224,385	34,380	20,582	4,397,912
1909.....	77	108	6,166	21,779	3,482,130	544,327	261,689	47,911	27,344	6,239,120
Per cent of increase.....			-71.9	-28.2	-50.7	1.5	-14.3	-28.2	-24.7	-29.5

<sup>1</sup> Operators, not enterprises, in 1909

<sup>2</sup> The totals for all industries include, besides those specified, statistics for the chromite industry in 1919 and for the borax, chromite, grindstone, marl, monazite and zircon, peat, and precious stones industries in 1909, for which comparable figures could not be given. The value of products of these industries was less than one-tenth of 1 per cent of the total for all industries in 1919 and one-tenth of 1 per cent in 1909.

<sup>3</sup> Includes \$631,564 which could not be distributed among the stone industries.

<sup>4</sup> A minus sign (-) denotes decrease.

## GENERAL TABLES.

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TABLE 1.—COMPARATIVE SUMMARY FOR THE UNITED STATES, BY INDUSTRIES, PRODUCING ENTERPRISES:  
1919 AND 1909—Continued.

INDUSTRY AND CENSUS YEAR.	Number of enterprises. <sup>1</sup>	Number of mines, quarries, or wells.	Wage earners (average number).	Power used (aggregate horse-power).	PRINCIPAL EXPENSES.					Value of products.
					Salaries and wages.	Supplies and materials.	Cost of fuel and purchased power.	Royalties and rents.	Contract work.	
MISCELLANEOUS:										
Abrasive materials—										
1919.....	34	34	317	1,748	\$377,522	\$116,145	\$53,122	\$25,634	\$32,231	\$721,728
1909.....	49	82	1,344	1,344	191,442	37,086	23,637	12,203	9,052	498,290
Per cent of increase <sup>2</sup> .....			-21.3	30.1	97.2	213.2	137.4	110.0	557.5	44.8
Asbestos—										
1919.....	10	11	146	420	120,575	47,202	5,430	1,740		249,839
1909.....	5	20	54	380	41,329	23,120	400	45	400	65,140
Per cent of increase <sup>2</sup> .....			170.4	10.5	191.7	104.2	1,257.5	3,766.7		283.5
Asphalt—										
1919.....	9	12	324	648	431,053	370,000	24,376	13,387	5,917	749,520
1909.....	12	19	205	828	173,106	69,159	13,598	1,517	15,548	466,461
Per cent of increase <sup>2</sup> .....			58.0	-21.7	149.0	408.3	82.9	782.5	-61.9	60.7
Barytes—										
1919.....	89	98	910	3,029	878,958	230,082	69,724	45,343	10,127	1,592,245
1909.....	23	42	240	262	110,498	21,756	6,468	14,232	14,340	224,700
Per cent of increase <sup>2</sup> .....			282.0	1,056.1	698.5	985.1	978.0	218.6	-29.4	608.4
Bauxite—										
1919.....	10	15	738	2,507	1,099,178	303,553	137,766	152,848		2,190,279
1909.....	10	10	563	1,565	230,750	21,665	33,624	6,909		670,829
Per cent of increase <sup>2</sup> .....			31.1	60.2	376.3	1,301.1	309.7	2,112.3		220.5
Clay—										
1919.....	345	350	5,453	21,243	6,209,401	1,416,999	452,589	465,184	126,355	10,080,288
1909.....	261	336	3,262	8,568	1,586,509	280,953	108,389	85,403	48,038	2,945,948
Per cent of increase <sup>2</sup> .....			67.2	130.5	291.4	404.4	317.6	444.7	162.9	242.4
Feldspar—										
1919.....	30	32	340	1,782	317,184	97,834	33,442	16,391	12,073	584,296
1909.....	22	28	247	993	135,363	40,852	15,892	9,238	8,681	271,437
Per cent of increase <sup>2</sup> .....			41.3	79.5	134.3	139.5	110.4	77.4	39.1	115.3
Fluorspar—										
1919.....	54	72	1,124	7,138	1,491,076	634,498	163,239	101,311	145,916	3,334,880
1909.....	13	15	290	1,179	193,118	84,695	24,414	1,017	949	288,509
Per cent of increase <sup>2</sup> .....			287.6	505.4	672.1	1,728.8	568.6	5,184.9	15,275.8	1,055.9
Fuller's earth—										
1919.....	9	9	824	2,538	634,854	338,011	299,863	5,899	8,556	2,019,226
1909.....	16	21	327	1,739	156,079	85,707	48,010	582	67	315,782
Per cent of increase <sup>2</sup> .....			152.0	45.9	304.4	344.2	524.6	913.6	12,070.1	539.5
Graphite—										
1919.....	21	24	419	6,410	463,876	209,256	121,614	2,046	50,606	869,403
1909.....	19	20	204	2,647	180,683	69,601	35,922	5,765	4,000	344,130
Per cent of increase <sup>2</sup> .....			42.5	142.2	149.3	200.7	238.6	-54.1	1,167.4	152.6
Gypsum—										
1919.....	47	48	2,191	15,032	3,033,841	1,530,338	660,420	69,403	3,747	6,895,040
1909.....	78	222	3,462	17,685	2,372,766	986,658	573,459	74,916	16,558	5,812,810
Per cent of increase <sup>2</sup> .....			-36.7	-15.0	27.9	55.1	15.2	-7.4	-77.4	17.1
Magnesite—										
1919.....	11	11	448	2,540	74,487	332,206	206,105	47,193	50,846	2,169,571
1909.....	6	13	80	126	39,922	6,282	7,556	253		68,463
Per cent of increase <sup>2</sup> .....			796.0	1,915.9	1,772.4	5,188.2	3,818.8	18,563.4		3,060.0
Mica—										
1919.....	65	69	448	803	335,066	107,933	22,668	18,893	7,325	607,025
1909.....	73	78	272	463	139,188	10,377	12,392	5,684	6,036	206,794
Per cent of increase <sup>2</sup> .....			64.7	73.4	140.7	940.1	82.9	232.4	21.4	193.5
Millstones—										
1919.....	11	11	37	220	59,766	11,244	7,110	2,175		64,631
1909.....	14	14	51	16,850	16,850	483	25	271		34,441
Per cent of increase <sup>2</sup> .....			-27.5		254.7	2,223.0	28,340.0	702.6		87.7
Mineral pigments—										
1919.....	23	23	185	1,630	214,752	83,078	30,366	8,499	1,320	480,768
1909.....	23	26	151	849	60,856	14,710	7,775	3,469	20,388	151,015
Per cent of increase <sup>2</sup> .....			22.5	92.0	252.9	464.8	290.6	145.0	-93.5	218.4
Phosphate rock—										
1919.....	48	69	4,373	49,639	4,662,389	2,161,501	1,819,301	209,687	163,696	10,300,198
1909.....	51	153	7,873	50,526	3,808,651	898,657	1,360,308	345,568	251,849	10,781,192
Per cent of increase <sup>2</sup> .....			-44.5	-1.8	22.5	140.5	33.7	-39.3	-35.0	-4.5
Pyrite—										
1919.....	17	18	1,172	7,338	1,569,795	615,726	221,841	43,057	87,061	2,408,048
1909.....	11	12	1,036	5,758	463,321	152,143	71,537	887	2,730	676,934
Per cent of increase <sup>2</sup> .....			7.9	27.4	238.8	304.7	210.1	4,754.2	3,089.0	255.8
Silica—										
1919.....	24	29	166	2,032	198,737	58,185	21,930	4,060	1,847	371,638
1909.....	14	14	158	1,219	94,774	17,461	12,065	2,959	16,351	231,025
Per cent of increase <sup>2</sup> .....			5.1	66.7	109.7	233.2	82.0	57.2	-88.7	60.9
Sulphur—										
1919.....	4	4	1,129	15,291	2,085,189	1,452,136	2,764,194			17,935,882
1909.....	4	4	366	3,114	434,887	248,383	708,384		361	4,432,066
Per cent of increase <sup>2</sup> .....			208.5	391.0	381.8	484.6	290.2			304.7
Talc and soapstone—										
1919.....	28	30	958	7,053	1,049,988	345,166	155,564	38,058	52,757	2,302,393
1909.....	39	46	1,256	9,433	607,128	196,054	66,339	31,287	3,550	1,174,516
Per cent of increase <sup>2</sup> .....			-23.7	-25.2	72.9	76.1	134.5	24.5	1,386.1	96.0

<sup>1</sup> Operators, not enterprises, in 1909.<sup>2</sup> A minus sign (—) denotes decrease.



## MINES AND QUARRIES.

TABLE 2.—COMPARATIVE SUMMARY FOR THE UNITED STATES, BY STATES, PRODUCING ENTERPRISES:  
1919 AND 1909.

STATE AND CENSUS YEAR.	Number of enterprises. <sup>1</sup>	Number of mines and quarries.	Number of wells productive Dec. 31.	Wage earners (average number).	Power used (aggregate horsepower).	PRINCIPAL EXPENSES.					Value of products.
						Salaries and wages.	Supplies and materials.	Cost of fuel and purchased power.	Royalties and rents.	Contract work.	
<b>United States:</b>											
1919 <sup>2</sup> .....	21,230	13,844	257,673	981,560	6,723,786	\$1,445,265,211	\$555,499,028	\$122,105,930	\$175,293,984	\$79,380,177	\$3,158,463,966
1909.....	19,915	13,164	166,320	967,633	4,608,263	1,440,187,630	202,729,754	45,136,550	63,973,585	28,887,898	1,236,410,322
Per cent of increase.....				1.4	45.9	125.8	174.0	170.5	174.0	174.0	155.0
<b>ALABAMA:</b>											
1919.....	264	348	.....	32,579	145,775	40,164,557	7,480,910	3,080,283	838,101	167,070	59,866,040
1909.....	177	302	.....	28,271	91,924	15,936,062	2,620,390	1,048,824	333,828	767,385	24,350,667
Per cent of increase.....				15.2	58.6	152.0	185.5	193.7	151.1	-78.2	145.8
<b>ARIZONA:</b>											
1919.....	155	172	.....	15,268	166,091	29,952,641	16,160,891	5,377,525	438,926	746,783	88,478,111
1909.....	135	251	.....	12,838	47,272	14,520,940	6,929,758	5,603,989	8,250	238,982	34,217,651
Per cent of increase.....				18.9	251.4	106.3	133.2	-4.0	5,216.4	212.5	158.6
<b>ARKANSAS:</b>											
1919.....	126	126	124	3,630	21,365	5,175,118	1,401,512	441,261	386,925	139,434	8,404,537
1909.....	96	146	62	4,935	14,080	3,264,607	368,207	138,987	193,990	117,195	4,603,845
Per cent of increase.....				-26.4	51.7	58.5	280.6	217.5	99.5	19.0	82.6
<b>CALIFORNIA:</b>											
1919.....	725	357	9,197	19,344	313,213	36,889,720	32,692,276	7,047,225	10,910,833	1,377,278	163,770,243
1909.....	1,329	1,279	4,316	20,517	162,238	22,018,221	21,652,312	2,775,643	2,814,269	595,130	63,382,454
Per cent of increase.....				-5.7	93.1	67.5	51.7	153.9	287.7	131.4	158.4
<b>COLORADO:</b>											
1919.....	477	523	70	16,780	116,351	28,193,572	11,954,556	2,706,480	1,583,712	397,930	51,217,038
1909.....	672	1,575	76	21,483	98,777	20,576,236	10,389,810	1,955,984	1,017,447	2,996,083	45,680,135
Per cent of increase.....				-21.8	17.8	37.0	15.1	38.4	55.7	-85.7	12.1
<b>CONNECTICUT:</b>											
1919.....	41	47	.....	543	8,520	791,100	304,096	120,374	10,604	27,038	1,649,003
1909.....	71	75	.....	1,385	6,298	812,061	127,424	71,917	16,771	19,761	1,375,765
Per cent of increase.....				-60.8	35.3	-2.6	138.6	67.4	-36.3	96.5	19.9
<b>DELAWARE:</b>											
1919.....	7	8	.....	116	660	155,981	34,214	19,559	5,434	3,018	243,647
1909.....	9	9	.....	493	1,480	287,742	152,054	26,378	4,392	5,800	516,213
Per cent of increase.....				-76.5	-55.4	-45.8	-77.5	-25.9	23.7	-48.0	-52.8
<b>FLORIDA:</b>											
1919.....	36	55	.....	3,372	44,969	3,774,015	1,836,229	1,687,696	140,815	121,202	8,976,413
1909.....	36	96	.....	5,443	42,366	2,846,613	738,946	1,223,035	197,762	217,691	8,846,665
Per cent of increase.....				-38.1	6.1	32.6	148.5	38.0	-28.8	-14.3	1.5
<b>GEORGIA:</b>											
1919.....	74	82	.....	2,397	13,026	2,372,473	608,766	356,019	155,833	35,295	4,082,152
1909.....	92	109	.....	3,383	10,698	1,463,085	264,021	140,666	58,717	1,903	2,374,595
Per cent of increase.....				-29.1	21.8	61.6	139.7	142.7	165.4	1,754.7	42.0
<b>IDAHO:</b>											
1919.....	82	83	.....	2,455	31,239	4,739,695	2,028,256	513,778	182,364	193,657	11,840,301
1909.....	174	370	.....	3,246	26,278	4,403,425	1,847,458	350,199	27,632	23,036	8,049,342
Per cent of increase.....				-24.4	18.9	7.6	9.7	44.2	560.0	740.7	36.9
<b>ILLINOIS:</b>											
1919.....	772	590	16,498	79,123	318,231	104,302,370	18,807,752	5,784,479	6,636,176	431,555	178,673,065
1909.....	915	759	10,918	72,086	225,330	49,491,382	8,574,817	1,325,880	3,579,472	2,376,956	76,658,974
Per cent of increase.....				9.8	41.2	110.7	119.3	336.3	85.4	-81.8	133.1
<b>INDIANA:</b>											
1919.....	503	393	2,456	26,751	129,663	34,271,203	6,421,009	2,012,706	939,696	340,187	52,840,252
1909.....	1,010	450	10,373	29,936	95,039	15,834,009	1,846,499	551,821	595,274	295,982	21,934,201
Per cent of increase.....				11.8	36.4	115.8	247.7	264.7	57.9	14.9	140.9
<b>IOWA:</b>											
1919.....	198	226	.....	11,274	32,171	13,810,123	2,072,308	748,844	335,530	33,464	18,473,558
1909.....	373	431	.....	16,430	23,453	11,411,421	1,307,919	221,740	349,440	40,836	13,377,781
Per cent of increase.....				-31.6	37.2	21.0	58.4	237.7	-4.0	-18.1	33.1
<b>KANSAS:</b>											
1919.....	814	238	12,600	16,136	133,984	25,248,693	33,395,983	4,305,575	10,712,223	3,997,644	90,338,204
1909.....	643	532	3,402	14,343	66,943	10,324,782	2,038,025	267,964	1,665,539	395,947	18,722,634
Per cent of increase.....				12.5	100.1	144.5	1,538.6	1,506.8	543.1	909.6	382.5
<b>KENTUCKY:</b>											
1919.....	938	364	5,214	43,533	148,893	56,881,204	15,659,195	2,522,749	5,814,424	3,265,715	98,486,910
1909.....	437	442	1,109	18,297	53,203	8,792,662	1,322,406	218,489	422,579	184,903	12,100,075
Per cent of increase.....				138.1	179.9	546.7	1,084.1	1,054.6	1,275.9	1,666.2	713.9
<b>LOUISIANA AND MISSISSIPPI:</b>											
1919.....	137	4	2,479	5,228	86,135	9,002,467	8,501,967	2,813,008	4,312,372	2,043,444	40,016,535
1909.....	33	2	246	8,445	920.0	1,199,658	866,656	726,971	496,198	62,440	6,547,050
Per cent of increase.....				464.6	920.0	650.4	881.0	286.9	769.1	3,172.7	511.2
<b>MAINE:</b>											
1919.....	50	51	.....	979	6,277	1,170,075	203,187	122,792	9,986	32,368	1,823,442
1909.....	97	102	.....	2,144	8,141	1,451,868	219,579	84,683	16,302	6,728	2,056,083
Per cent of increase.....				-54.8	-22.9	-19.4	-7.5	45.0	-38.7	381.1	-11.3
<b>MARYLAND:</b>											
1919.....	126	161	.....	5,628	18,600	6,941,403	1,178,074	308,766	137,562	16,899	9,698,577
1909.....	126	173	.....	7,130	18,118	3,668,129	478,555	104,156	133,786	8,303	5,782,045
Per cent of increase.....				-21.7	8.0	89.2	146.2	196.4	2.8	103.5	67.7
<b>MASSACHUSETTS:</b>											
1919.....	74	79	.....	1,704	12,498	2,393,446	494,249	263,345	59,067	11,186	4,175,699
1909.....	139	147	.....	3,291	15,031	2,180,355	363,693	153,258	55,409	16,272	3,467,888
Per cent of increase.....				-48.2	-16.9	9.8	35.9	71.8	6.6	-31.3	20.4
<b>MICHIGAN:</b>											
1919.....	122	165	19	31,292	337,882	54,717,746	15,204,063	8,444,697	6,668,923	29,439	103,870,089
1909.....	83	173	21	39,189	273,861	29,834,430	9,800,415	4,193,347	4,048,606	470,205	67,714,479
Per cent of increase.....				-20.1	23.4	83.4	55.1	101.4	64.7	-93.7	53.4
<b>MINNESOTA:</b>											
1919.....	135	196	.....	17,265	144,199	32,431,442	14,101,962	4,681,952	17,642,811	1,512,999	130,399,254
1909.....	153	250	.....	16,586	151,834	13,475,789	6,736,806	2,024,606	10,731,959	2,157,108	58,064,852
Per cent of increase.....				4.1	-5.0	140.7	109.3	131.3	64.4	-29.9	122.3
<b>MISSOURI:</b>											
1919.....	468	494	.....	14,857	100,160	18,640,977	4,784,748	2,034,413	780,604	415,843	33,365,694
1909.....	1,021	1,224	39	23,420	109,672	15,668,490	6,201,395	2,220,657	1,054,092	162,034	31,607,525
Per cent of increase.....				-36.6	-8.7	19.0	-22.9	-8.4	-60.1	156.6	5.4
<b>MONTANA:</b>											
1919.....	259	269	28	16,120	143,718	28,228,209	9,514,869	2,979,928	646,125	115,521	49,923,721
1909.....	373	543	.....	18,846	174,389	22,774,479	16,397,323	3,628,050	1,822,875	394,499	54,991,961
Per cent of increase.....				-14.4	-17.6	23.9	-42.0	-17.9	-64.6	-70.7	-9.2

<sup>1</sup> Operators, not enterprises, in 1909.<sup>2</sup> The total for the United States includes, besides the states specified, statistics for the District of Columbia for which no statistics were reported for 1909.<sup>3</sup> Exclusive of duplications, 307 operators having reported in two or more states.<sup>4</sup> Includes \$1,568,298 which could not be distributed among the several states.<sup>5</sup> Includes \$61,801 which could not be distributed among the several states.<sup>6</sup> A minus sign (-) denotes decrease.<sup>7</sup> Includes statistics for Louisiana only; nothing reported for Mississippi.

TABLE 2.—COMPARATIVE SUMMARY FOR THE UNITED STATES, BY STATES, PRODUCING ENTERPRISES:  
1919 AND 1909—Continued.

STATE AND CENSUS YEAR.	Number of enterprises. <sup>1</sup>	Number of mines and quarries.	Number of wells productive Dec. 31.	Wage earners (average number).	Power used (aggregate horsepower).	PRINCIPAL EXPENSES.					Value of products.
						Salaries and wages.	Supplies and materials.	Cost of fuel and purchased power.	Royalties and rents.	Contract work.	
NEBRASKA:											
1919.....	9	9	.....	162	1,847	\$193,339	\$80,996	\$21,176	\$9,715	.....	\$292,766
1909.....	18	20	.....	349	815	186,582	35,474	22,019	1,551	\$5,593	322,517
Per cent of increase <sup>2</sup> .....				-53.6	128.6	3.6	71.9	-3.8	526.4	.....	-9.2
NEVADA:											
1919.....	203	207	.....	4,231	50,785	8,500,961	5,339,511	1,751,266	143,708	245,429	18,053,084
1909.....	266	374	.....	4,642	26,882	6,801,126	4,985,612	1,311,625	275,556	106,768	23,271,597
Per cent of increase <sup>2</sup> .....				-8.9	89.1	25.0	7.1	33.5	-47.8	24.7	-22.4
NEW HAMPSHIRE:											
1919.....	30	33	.....	682	4,336	921,871	144,946	64,980	6,268	34,520	1,568,165
1909.....	45	53	.....	1,418	3,771	979,840	100,931	54,427	4,271	9,246	1,308,597
Per cent of increase <sup>2</sup> .....				-51.9	15.0	-5.9	43.6	19.4	46.8	273.4	19.8
NEW JERSEY:											
1919.....	97	102	.....	4,576	33,901	6,119,411	2,194,539	719,938	276,555	57,948	9,308,002
1909.....	131	151	.....	6,315	18,048	3,064,247	674,962	319,329	101,028	44,489	8,347,501
Per cent of increase <sup>2</sup> .....				-27.5	87.8	90.7	225.1	125.5	173.7	30.3	11.6
NEW MEXICO:											
1919.....	85	103	1	7,100	59,876	11,644,903	3,889,454	1,361,210	181,504	131,503	18,872,560
1909.....	98	285	.....	5,107	16,042	3,974,490	895,487	203,083	78,995	132,535	5,587,744
Per cent of increase <sup>2</sup> .....				39.0	273.2	193.0	382.9	570.3	129.8	-0.8	237.7
NEW YORK:											
1919.....	700	147	14,186	6,202	91,330	8,928,382	7,416,586	1,402,245	649,472	789,360	25,131,003
1909.....	1,351	752	11,342	9,305	101,759	5,425,490	1,952,593	585,161	465,454	513,042	13,334,975
Per cent of increase <sup>2</sup> .....				-33.3	-10.2	64.6	279.8	139.6	39.5	53.9	88.5
NORTH CAROLINA:											
1919.....	102	106	.....	1,890	5,030	1,688,674	467,460	220,731	36,071	5,745	2,730,543
1909.....	118	130	.....	2,215	6,062	985,804	152,714	103,319	20,212	37,389	1,358,617
Per cent of increase <sup>2</sup> .....				-14.7	-16.9	71.3	206.1	113.6	78.5	-34.0	101.4
NORTH DAKOTA:											
1919.....	79	79	.....	774	2,037	1,188,772	283,633	37,694	30,868	30,750	1,927,304
1909.....	53	53	6	562	2,025	426,910	95,352	12,835	10,647	1,325	564,812
Per cent of increase <sup>2</sup> .....				37.7	0.6	178.5	197.5	193.7	189.9	2,220.8	241.2
OHIO:											
1919.....	2,283	1,064	35,440	49,298	337,611	66,152,128	19,209,516	4,131,068	6,339,816	3,929,476	134,518,505
1909.....	1,876	964	35,067	50,567	294,763	29,544,213	12,730,355	892,671	3,667,382	2,970,544	63,767,112
Per cent of increase <sup>2</sup> .....				-2.5	14.5	123.9	50.8	362.8	72.9	32.3	111.0
OKLAHOMA:											
1919.....	1,934	284	44,735	33,914	448,173	59,341,652	65,216,973	4,793,574	30,688,890	18,982,377	281,927,732
1909.....	864	212	12,113	11,658	95,074	9,117,970	5,027,763	384,186	2,783,975	2,137,314	25,037,862
Per cent of increase <sup>2</sup> .....				190.9	371.4	550.8	1,197.1	1,147.7	1,002.3	788.1	999.7
OREGON:											
1919.....	50	52	.....	740	6,204	1,140,778	545,949	133,472	48,047	35,888	1,884,871
1909.....	116	161	.....	880	8,070	830,025	186,796	96,592	16,935	7,717	1,191,512
Per cent of increase <sup>2</sup> .....				-14.0	-22.4	37.4	192.3	38.2	183.7	365.1	58.2
PENNSYLVANIA:											
1919.....	5,807	3,621	77,325	323,397	1,990,422	480,183,116	124,327,767	27,707,403	24,682,827	7,970,425	819,451,109
1909.....	4,851	8,000	59,780	361,013	1,618,806	210,531,202	48,274,254	6,423,190	15,376,127	5,976,082	349,059,789
Per cent of increase <sup>2</sup> .....				-10.4	23.5	128.1	157.5	331.4	60.5	33.4	134.8
RHODE ISLAND:											
1919.....	14	15	.....	369	3,000	482,329	146,637	55,075	5,755	1,000	952,204
1909.....	21	27	.....	695	2,350	467,772	130,947	26,991	8,552	.....	897,096
Per cent of increase <sup>2</sup> .....				-44.5	27.7	3.1	12.0	104.0	-32.7	.....	6.1
SOUTH CAROLINA:											
1919.....	20	20	.....	933	4,656	820,327	303,371	150,440	7,512	.....	1,350,747
1909.....	29	32	.....	1,814	7,012	708,669	124,618	117,899	10,336	6,680	1,252,792
Per cent of increase <sup>2</sup> .....				-48.6	-33.6	15.8	143.4	27.6	-27.3	.....	7.8
SOUTH DAKOTA:											
1919.....	23	28	1	1,785	11,844	2,714,150	1,008,196	284,010	6,805	11,941	5,314,516
1909.....	39	43	3	3,456	15,648	1,109,671	421,048	421,048	4,776	60	6,432,417
Per cent of increase <sup>2</sup> .....				-48.4	-24.3	-20.9	-9.1	-32.5	42.5	23,782.0	-17.4
TENNESSEE:											
1919.....	203	263	14	14,470	56,685	14,625,573	3,892,397	1,259,983	554,743	173,796	23,292,114
1909.....	216	365	.....	16,398	34,523	8,346,871	1,613,571	645,376	617,097	54,372	12,692,547
Per cent of increase <sup>2</sup> .....				-11.4	64.2	75.2	141.2	95.2	-10.1	219.6	83.5
TEXAS:											
1919.....	624	81	8,749	18,164	129,063	35,987,955	45,401,592	6,189,559	23,912,179	25,773,700	160,378,058
1909.....	236	92	2,279	6,379	32,003	4,539,257	1,833,415	255,614	917,799	152,096	10,742,160
Per cent of increase <sup>2</sup> .....				184.7	303.3	692.8	2,376.3	2,321.4	2,605.4	16,845.7	1,393.0
UTAH:											
1919.....	141	154	.....	9,847	86,131	19,113,565	8,043,453	2,019,110	150,955	491,178	41,510,802
1909.....	188	236	.....	10,089	47,226	10,184,378	4,027,324	1,074,119	71,911	265,066	22,083,282
Per cent of increase <sup>2</sup> .....				-2.4	82.4	87.7	99.7	88.0	109.9	85.3	88.0
VERMONT:											
1919.....	93	109	.....	2,936	28,119	3,490,284	1,272,796	425,398	58,506	91,750	8,555,030
1909.....	137	182	.....	8,145	26,668	4,819,552	905,157	362,438	84,332	64,098	8,221,323
Per cent of increase <sup>2</sup> .....				-64.0	9.5	-27.6	40.6	17.4	-30.6	41.8	4.1
VIRGINIA:											
1919.....	202	216	.....	14,547	57,880	17,798,411	4,769,370	1,216,894	830,435	340,851	29,363,449
1909.....	150	244	.....	15,257	34,630	5,842,408	1,173,896	484,527	418,353	119,028	8,795,646
Per cent of increase <sup>2</sup> .....				-4.7	67.1	204.6	305.5	151.2	98.5	186.4	233.8
WASHINGTON:											
1919.....	83	93	.....	5,050	38,198	8,128,198	1,728,585	947,330	177,429	86,624	13,329,129
1909.....	93	170	.....	6,904	20,742	6,235,673	843,025	245,852	141,231	14,462	10,537,556
Per cent of increase <sup>2</sup> .....				-26.9	84.2	30.3	105.0	285.3	25.6	499.0	26.5
WEST VIRGINIA:											
1919.....	1,714	1,325	27,363	100,812	704,279	134,532,195	46,611,574	6,908,796	14,845,553	3,889,691	295,006,620
1909.....	798	718	15,146	73,410	416,232	39,809,620	12,541,375	1,212,825	7,796,172	4,465,926	76,237,889
Per cent of increase <sup>2</sup> .....				37.3	69.2	237.9	271.7	469.6	90.4	-12.9	287.5
WISCONSIN:											
1919.....	92	107	.....	3,547	26,766	5,368,350	1,969,512	857,265	535,600	135,298	10,580,833
1909.....	263	286	.....	4,710	24,864	3,339,831	877,925	435,903	445,146	40,957	7,459,404
Per cent of increase <sup>2</sup> .....				-24.7	7.6	60.7	124.3	96.8	20.3	230.3	41.8
WYOMING:											
1919.....	106	87	1,084	9,699	62,757	15,063,344	6,422,769	1,072,787	1,765,597	715,060	41,928,788
1909.....	66	95	21	7,742	30,338	6,714,194	1,385,594	376,187	107,834	61,542	10,572,188
Per cent of increase <sup>2</sup> .....				25.3	106.9	137.8	363.5	185.2	1,537.3	1,063.4	296.6

<sup>1</sup> Operators, not enterprises, in 1909.<sup>2</sup> A minus sign (-) denotes decrease.

## MINES AND QUARRIES.

TABLE 3.—DETAILED STATISTICS FOR MINES, QUARRIES, AND WELLS, PRODUCING AND

INDUSTRY.	Number of enterprises.	Number of mines, quarries, or wells.	Number of enterprises operating beneficially.	LAND CONTROLLED (ACRES).				PERSONS ENGAGED IN INDUSTRY.									
				Mineral land.			Timber and other lands.	Aggregate.	Proprietors and officials.						Clerks and other subordinate employees.		
				Operated.	Owned.	Leased.			Total.	Proprietors and firm members.		Salaried officers.	Superintendents and managers.	Technical employees.			
										Total.	Performing manual labor.				Male.	Female.	
1 All industries.....	21,997	.....	1,503	22,947,937	8,729,545	14,294,342	2,215,702	1,084,796	61,588	22,155	5,272	10,729	22,223	6,481	25,854	10,176	
2 Producing enterprises...	21,230	.....	1,503	22,474,069	8,568,560	13,980,731	2,208,519	1,077,675	60,409	21,918	5,245	10,456	21,704	6,331	25,649	10,057	
3 FUELS:																	
4 Coal, anthracite.....	254	1,534	140	261,355	194,390	77,955	159,710	154,882	4,120	159	34	233	2,821	907	2,773	617	
5 Coal, bituminous.....	6,636	8,282	134	8,261,372	5,793,651	2,528,562	751,473	583,608	22,403	4,237	1,830	5,870	9,750	2,540	11,085	4,322	
6 Petroleum and natural gas..	9,814	257,673	.....	12,171,388	1,172,068	10,999,320	.....	125,110	22,187	14,223	1,987	2,392	4,704	868	6,046	3,672	
7 METALS:																	
8 Iron ore.....	290	406	74	241,508	177,296	65,280	600,140	48,767	1,286	41	9	130	616	499	1,454	286	
9 Copper.....	195	226	57	392,811	378,839	14,045	255,819	46,909	1,601	103	62	185	596	717	1,493	188	
10 Lead and zinc.....	432	473	202	135,262	99,338	36,118	47,053	24,030	1,374	412	186	166	547	249	593	170	
11 Gold and silver, lode mines..	740	709	191	142,573	113,347	29,424	46,166	17,531	1,663	712	485	236	505	240	319	83	
12 Gold, placer mines.....	112	132	2	62,857	51,219	11,738	16,860	1,651	232	122	77	38	61	11	26	13	
13 Manganese.....	35	37	8	51,574	12,463	39,111	16	1,032	89	35	6	16	29	9	27	7	
14 Quicksilver.....	26	26	24	27,387	16,820	10,567	5,283	846	81	27	11	11	34	9	13	4	
15 Rare metals <sup>1</sup> .....	22	22	11	18,779	17,200	1,579	30	760	65	11	3	11	32	11	40	12	
16 STONE:																	
17 Limestone.....	895	925	44	122,820	84,717	38,306	52,963	24,705	1,727	633	175	375	672	47	701	208	
18 Granite.....	358	381	152	30,659	23,799	6,950	6,998	8,951	696	328	145	137	197	34	133	73	
19 Sandstone.....	255	276	66	48,729	34,726	15,435	6,641	4,897	434	179	53	106	143	6	115	61	
20 Basalt.....	163	174	6	15,625	7,139	8,486	1,889	3,791	310	77	20	85	138	10	103	42	
21 Slate.....	101	104	61	5,440	3,673	1,767	2,805	3,852	269	64	21	84	117	4	45	25	
22 Marble.....	48	62	25	28,969	11,818	17,159	6,278	1,891	96	7	3	46	40	3	38	25	
23 MISCELLANEOUS:																	
24 Abrasive materials <sup>2</sup> .....	34	34	14	15,885	10,334	5,551	1,433	379	53	25	6	6	19	3	3	6	
25 Asbestos.....	10	11	3	2,371	2,200	171	.....	165	14	5	1	1	7	1	4	1	
26 Asphalt.....	9	12	.....	8,889	8,759	130	.....	387	40	.....	.....	9	17	14	19	4	
27 Barytes.....	89	98	5	37,135	31,971	5,164	10,622	1,071	138	93	3	8	31	6	12	2	
28 Bauxite.....	10	15	7	8,997	1,164	2,833	23,998	806	35	2	.....	6	22	5	27	6	
29 Chromite.....	15	16	1	3,389	1,034	2,355	61	60	29	24	12	3	2	.....	.....	.....	
30 Clay.....	345	350	45	105,706	70,498	35,263	7,040	6,087	400	187	48	96	168	9	112	62	
31 Feldspar.....	30	32	4	1,480	761	719	235	398	42	20	6	12	10	.....	5	2	
32 Fluorspar.....	54	72	25	9,623	5,888	3,735	5,942	1,279	127	36	7	20	49	13	22	6	
33 Fuller's earth.....	9	9	8	6,720	4,274	2,446	258	873	40	.....	.....	9	28	3	5	4	
34 Graphite.....	21	24	16	8,114	7,931	183	186	493	49	6	2	5	30	8	22	3	
35 Gypsum.....	47	48	27	41,703	26,581	5,122	490	2,477	103	4	3	28	66	5	135	48	
36 Magnesite.....	11	11	7	2,931	1,375	1,556	930	499	38	13	.....	8	13	4	9	4	
37 Mica.....	65	69	9	5,188	3,225	1,963	781	555	99	67	27	10	21	1	5	3	
38 Millstones.....	11	11	.....	119	16	103	.....	53	15	14	10	.....	1	.....	1	.....	
39 Mineral pigments.....	23	23	11	2,483	1,997	486	1,836	223	30	13	4	7	10	.....	4	4	
40 Phosphate rock.....	48	69	20	160,447	159,418	4,029	81,363	4,761	223	14	.....	43	106	60	134	31	
41 Pyrite.....	17	18	12	9,103	5,532	3,571	8,958	1,288	43	.....	.....	10	27	6	42	11	
42 Silica.....	24	29	8	1,989	1,263	726	439	206	35	17	7	4	14	.....	2	3	
43 Sulphur.....	4	4	1	12,946	12,946	.....	7,595	1,273	59	.....	.....	8	28	23	62	23	
44 Talc and soapstone.....	28	30	23	14,743	11,920	2,823	283	1,069	74	8	2	33	33	.....	20	17	
45 Nonproducing enterprises	717	.....	.....	473,868	180,655	313,611	7,183	7,121	1,179	237	27	273	519	150	205	113	
46 FUELS:																	
47 Coal.....	26	26	.....	24,707	14,317	10,390	97	520	50	5	2	13	17	15	4	4	
48 Petroleum and natural gas..	156	276	.....	260,131	3,645	256,486	.....	820	262	96	8	47	90	29	56	48	
49 METALS:																	
50 Iron ore.....	18	18	.....	4,506	2,339	2,167	604	650	29	.....	.....	6	15	8	16	7	
51 Gold, silver, copper, lead, or zinc.	500	512	.....	176,035	136,452	40,281	5,648	4,665	801	133	17	201	380	87	122	51	
52 MISCELLANEOUS <sup>3</sup> .....	17	17	.....	8,489	4,202	4,287	834	457	37	3	.....	6	17	11	7	3	

<sup>1</sup> Includes 79 anthracite culm washeries and 81 river dredges.<sup>2</sup> Same number reported for one or more other months.<sup>3</sup> Includes enterprises in industries as follows: Molybdenum, 2; titanium, 2; tungsten, 6; uranium and vanadium, 12.

## NONPRODUCING ENTERPRISES, FOR THE UNITED STATES, BY INDUSTRIES: 1919.

PERSONS ENGAGED IN INDUSTRY—continued.																				
Wage earners.			Wage earners, Dec. 15 or nearest representative day.																	
Average number.	Number 15th day of—		Total.		Foremen, shift bosses, etc.		Enginemn, hoistmen, electricians, mechanics, etc.		Miners, quarrymen, and drillmen, including their helpers.		Timbermen, trackmen, and men engaged in hauling, tramping, etc.		Muckers, loaders, and others not classified.		In mills and beneficiating plants (above ground).	Under 16 years of age (above ground).	Females (above ground).	Capital.		
	Maximum month.	Minimum month.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.						
937,184	Oc 1,037,820	No 765,067	386,932	709,526	10,526	15,696	135,665	30,349	31,388	397,036	25,896	139,052	126,646	126,793	46,811	222	612	Dollars. 7,108,623,496	1	
981,560	Oc 1,051,204	No 758,156	382,766	705,423	10,314	15,437	134,117	30,145	30,702	395,388	25,583	138,491	135,239	125,952	46,811	221	541	6,955,466,831	2	
147,372 545,798 93,205	De 151,595 Oc 599,550 De 100,293	Ap 142,691 No 308,266 Fe 85,119	46,618 108,746 100,980	105,625 508,667 .....	435 4,647 .....	1,098 10,922 .....	10,488 32,635 64,230	4,331 22,444 .....	138 7,025 .....	59,401 295,084 .....	2,769 14,733 .....	17,325 99,480 .....	12,291 47,152 36,750	23,470 80,727 .....	20,497 2,554 .....	119 61 118	..... 58 .....	433,868,039 1,904,450,123 2,421,485,942	3 4 5	
45,741 43,717 21,884 15,436	Ja 47,493 Ja 58,025 Ja 25,124 Au 16,469	De 42,555 Je 37,885 Je 19,949 Ja 14,778	19,050 20,105 9,471 5,830	28,090 25,704 16,697 11,492	789 807 369 313	878 1,137 573 485	6,526 6,167 2,576 1,713	1,053 1,254 362 515	1,354 1,185 109 208	15,326 9,455 6,857 4,980	1,677 1,005 304 296	5,495 8,115 4,361 2,202	7,436 4,352 1,477 1,339	5,938 5,743 4,544 3,310	1,208 6,589 4,636 1,961	6 4 4 .....	7 74 18 49	501,396,044 853,639,017 197,223,814 280,388,711	6 7 8 9	
1,380 909 748 633	Jy 1,499 Fe 1,323 Ja 990 Ja 921	Ja 1,274 No 622 Ap 595 My 530	1,459 698 455 599	75 1,048 379 357	106 34 17 38	4 45 16 22	463 154 109 108	..... 4 7 5	122 42 31 104	60 694 151 197	37 98 42 61	4 127 114 66	729 291 83 183	7 178 91 67	2 109 173 105	1 2 ..... 3	12 ..... 2 12	24,574,441 7,268,426 4,423,601 4,889,912	10 11 12 13	
22,069 8,049 4,287 3,336 3,513 1,732	Au 25,655 Au 9,228 Au 4,961 Au 4,097 De 3,927 Oc 1,875	Fe 17,398 Ja 5,669 Fe 3,305 Ja 2,037 Ja 2,852 Ja 1,459	24,272 9,166 4,861 3,799 3,242 1,856	780 ..... ..... 731 ..... .....	957 379 197 144 133 66	10 ..... ..... 36 ..... .....	3,278 858 405 473 371 150	53 ..... ..... 3 ..... .....	8,433 3,736 1,599 1,120 811 783	204 ..... ..... ..... 488 .....	1,930 544 304 192 200 41	104 ..... ..... 54 ..... .....	8,716 1,621 1,621 1,828 792 307	409 ..... ..... 150 ..... .....	958 2,028 735 42 935 529	9 2 1 ..... 4 .....	10 1 2 2 ..... .....	82,124,367 18,823,980 18,955,321 12,899,171 6,923,172 9,033,522	14 15 16 17 18 19	
317 146 324 919 738	Se 369 Oc 241 Jy 594 De 1,089 De 934	Ap 255 Ja 43 Fe 156 Fe 756 Fe 581	398 105 362 1,155 941	7 100 78 ..... .....	13 3 15 32 37	..... 2 2 ..... .....	41 8 35 74 77	..... ..... ..... ..... .....	106 27 75 318 539	5 5 26 ..... .....	24 ..... ..... ..... 111	..... 3 34 ..... .....	113 47 229 629 65	2 ..... 16 ..... .....	101 15 20 40 112	..... ..... ..... 1 .....	1 ..... ..... ..... .....	1,442,909 772,299 3,171,405 2,200,455 1,950,173	20 21 22 23 24	
31 5,453 349 1,124 824	Fe 39 Se 6,020 Au 395 Ja 1,377 Se 923	De 19 Fe 4,681 Ja 291 Mh 957 Ja 687	44 4,547 432 765 891	15 1,755 ..... 560 .....	2 174 16 23	1 57 ..... 36 .....	3 349 27 50	..... 25 ..... 35 .....	27 815 228 55 202	9 1,066 ..... 183 .....	1 426 51 32 50	2 400 ..... 166 .....	9 2,627 66 211 39	3 207 ..... 140 .....	2 256 44 201 527	..... 1 ..... 201 29	..... 7 2 ..... .....	1,572,908 17,644,526 729,404 8,046,827 1,877,233	25 26 27 28 29	
419 2,191 448 448 37	Se 475 No 2,715 Do 670 De 497 My 42	De 356 Ja 1,574 Fe 236 Fe 400 Ja 26	517 1,381 434 378 42	44 1,175 191 149 .....	31 37 101 22 1	3 40 25 11 .....	73 105 65 15 .....	2 40 2 4 .....	69 159 57 115 31	8 445 56 87 .....	29 25 26 11 9	23 208 14 19 .....	140 239 124 85 1	8 442 109 28 .....	175 816 187 130 .....	..... ..... ..... 77 .....	1 11 ..... ..... .....	3,755,055 13,541,548 2,612,805 699,373 53,105	30 31 32 33 34	
185 4,373 1,172 166 1,129 958	Jy 217 De 5,771 Ja 1,651 Jy 224 Ap 1,545 No 1,058	Fe 155 Je 2,902 De 930 De 109 Ja 814 Fe 844	191 5,764 590 229 1,615 728	48 149 578 ..... 7 332	9 291 26 10 43 28	4 3 28 ..... ..... 14	20 1,154 129 17 878 72	..... 2 ..... ..... 4 .....	34 968 41 40 .....	21 116 201 ..... ..... .....	7 443 20 18 .....	13 7 108 ..... ..... .....	69 2,577 214 111 692 84	10 23 239 ..... 5 66	52 331 160 33 2 497	..... 1 13 2 4 6	..... 23 13 ..... ..... .....	815,572 72,733,956 4,455,785 661,711 28,046,634 6,225,747	35 36 37 38 39 40	
5,624	De 6,975	Fe 3,932	4,166	4,103	212	259	1,548	204	686	2,238	313	561	1,407	841	.....	1	71	153,156,865	41	
471 454	No 833 De 634	Ja 211 Ja 260	474 702	347 .....	19 .....	9 .....	68 520	10 .....	31 .....	271 .....	79 .....	29 .....	277 242	28 .....	.....	1 5	.....	5,617,170 24,960,853	42 43	
598 3,691	Ja 819 De 4,327	Oc 452 Fe 2,525	425 1,905	219 3,421	20 155	16 226	151 784	24 162	46 203	67 1,848	58 156	81 436	150 607	31 749	.....	.....	1 59	10,884,630 105,260,998	44 45	
410	No 703	Je 283	600	116	18	8	25	8	406	52	20	15	131	33	.....	.....	6	6,432,984	46	

\* Includes enterprises in industries as follows: Diatomaceous earth, 9; emery, 2; garnet, 2; pebbles and lining for grinding mills, 3; pumice, 6; rotten stone, 1; stone for whetstones, 2; tripoli, 9.

\* Includes enterprises in industries as follows: Barytes, 1; cobalt, 1; limestone, 1; manganese, 2; marble, 1; mica, 1; molybdenum, 2; phosphate rock, 1; pyrite, 1; quicksilver, 2; silica, 1; sulphur, 1; tin, 1; vanadium, 1.

## MINES AND QUARRIES.

TABLE 3.—DETAILED STATISTICS FOR MINES, QUARRIES, AND WELLS, PRODUCING AND

INDUSTRY.	PRINCIPAL EXPENSES OF OPERATION AND DEVELOPMENT.										
	Total.	Salaries and wages.			Supplies and materials.	Cost of ore, coal, and natural gas purchased as material or for resale.	Cost of fuel.	Cost of purchased power.	Royalties and rents.	Taxes—Federal, state, county, and local.	Contract work.
		Salaried officers, superintendents, managers, and technical employees.	Clerks and other subordinate salaried employees.	Wage earners.							
	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
1 All industries.....	2,543,887,062	105,892,362	45,380,063	1,304,409,342	528,853,639	35,905,352	94,848,752	28,660,836	176,129,858	141,567,734	82,239,098
2 Producing enterprises...	2,518,543,950	104,235,154	45,083,831	1,295,936,226	519,593,676	35,905,352	93,910,653	28,195,277	175,293,984	140,999,626	79,380,177
3 FUELS:											
4 Coal, anthracite.....	324,147,994	8,848,535	4,146,994	210,289,473	59,738,376	433,318	11,406,117	1,890,835	11,766,598	14,000,963	1,557,845
5 Coal, bituminous.....	990,738,244	50,234,218	18,334,820	632,601,068	142,432,551	28,813,671	25,896,660	11,280,509	22,295,050	34,707,390	2,865,966
6 Petroleum and natural gas..	628,468,862	21,375,372	12,092,906	134,521,247	195,058,693	28,813,671	19,828,776	965,300	106,468,518	38,990,630	68,663,659
7 METALS:											
8 Iron ore.....	177,573,809	4,198,832	2,737,828	75,713,459	27,187,832	8,700,358	1,594,231	24,944,936	30,829,610	1,671,783	
9 Copper.....	138,286,933	5,018,974	3,020,767	60,890,194	34,275,369	1,628,056	11,310,485	3,555,530	530,819	12,229,046	421,733
10 Lead and zinc.....	65,084,781	2,714,694	1,120,246	30,708,319	15,311,548	406,051	2,783,249	2,591,903	5,258,387	3,320,910	893,471
11 Gold and silver, lode mines..	53,070,119	2,466,693	539,068	23,817,657	13,040,897	4,608,291	1,028,124	2,386,136	1,015,719	2,325,491	1,237,043
12 Gold, placer mines.....	6,314,764	330,410	50,363	1,914,072	2,244,728	20,459	1,123,874	85,899	350,132	132,907	
13 Manganese.....	2,153,151	104,481	29,623	1,085,899	447,833	52,223	46,107	183,087	90,656	149,237	
14 Quicksilver.....	1,603,445	194,398	26,810	827,751	408,269	127,931	29,133	45,194	31,016	7,073	
15 Rare metals.....	1,606,420	174,724	47,021	748,235	373,649	7,000	45,492	45,396	35,609	7,878	
16 STONE:											
17 Limestone.....	45,230,704	2,614,748	1,111,845	23,926,332	10,968,220	2,897,432	1,278,958	667,751	1,119,861	665,557	
18 Granite.....	14,107,461	982,092	214,364	8,587,659	2,598,040	835,636	261,185	130,202	377,646	118,637	
19 Sandstone.....	8,173,578	630,306	290,327	4,443,811	1,604,432	597,353	250,909	131,970	195,309	54,161	
20 Basalt.....	7,983,629	598,157	153,030	3,991,307	2,030,609	562,827	187,161	260,199	198,613	41,406	
21 Slate.....	4,914,081	341,487	67,763	3,128,249	632,459	223,354	138,505	157,788	73,238	95,633	
22 Marble.....	2,661,848	191,396	62,723	1,452,440	552,439	147,644	70,741	34,350	129,503	20,582	
23 MISCELLANEOUS:											
24 Abrasive materials.....	643,676	46,468	8,675	322,379	116,145	56,122	25,634	6,022	62,231		
25 Asbestos.....	178,904	25,088	3,815	91,672	47,202	3,380	2,050	1,740	3,937		
26 Asphalt.....	632,828	105,941	30,400	294,652	376,000	24,876	13,367	41,686	5,917		
27 Barytes.....	1,259,058	82,375	27,736	768,847	218,582	17,500	50,359	19,335	45,343	18,824	
28 Bauxite.....	1,795,740	103,438	53,933	941,507	303,558	137,766	152,848	102,390			
29 Chromite.....	94,465	5,475	44,777	13,330	13,330	1,575	4,777	215	24,316		
30 Clay.....	8,818,563	646,201	196,118	5,267,082	1,416,999	397,655	54,934	465,184	148,035	126,355	
31 Feldspar.....	489,717	45,866	7,458	263,760	97,834	21,284	12,158	16,391	12,793		
32 Fluorspar.....	2,878,431	259,997	35,302	1,195,777	634,498	163,239	101,311	342,391	145,916		
33 Fuller's earth.....	1,406,250	85,452	8,209	541,163	338,011	294,260	5,603	5,899	119,067	8,556	
34 Graphite.....	871,211	104,099	18,235	341,542	209,256	81,917	39,697	2,646	23,123	50,096	
35 Gypsum.....	5,379,732	275,145	280,305	2,478,391	1,530,338	516,148	144,272	69,403	81,983	3,747	
36 Magnesite.....	1,488,006	78,918	16,267	662,302	300,741	31,465	37,694	47,193	14,169	50,846	
37 Mica.....	495,364	36,658	9,921	288,487	107,933	20,935	1,733	18,893	3,470	7,325	
38 Millstones.....	80,311	10,000	1,800	47,066	11,244	3,750	2,175	18			
39 Mineral pigments.....	341,051	31,620	8,679	174,453	83,078	27,707	2,659	8,499	3,036	1,320	
40 Phosphate rock.....	9,364,154	566,477	194,946	3,900,966	2,161,501	1,730,833	79,468	209,687	347,580	163,696	
41 Pyrite.....	2,594,728	123,319	61,741	1,384,735	615,726	163,039	58,802	43,057	57,248	87,061	
42 Silica.....	290,583	28,835	4,193	165,709	58,185	16,434	5,526	4,060	5,794	1,847	
43 Sulphur.....	7,189,753	292,117	120,898	1,082,174	1,452,136	2,764,194	46,474	38,958	878,234	52,757	
44 Tale and soapstone.....	1,690,888	172,048	42,527	835,413	345,166	109,090			47,955		
45 Nonproducing enterprises	25,343,106	1,657,208	288,258	8,473,116	9,259,963	938,099	465,559	835,874	568,108	2,858,921	
46 FUELS:											
47 Coal.....	1,415,640	74,761	5,225	590,824	651,231	4,548	10,751	19,476	46,289	12,535	
48 Petroleum and natural gas..	6,655,716	305,228	105,128	875,923	3,031,107	242,616	7,727	591,729	57,758	1,438,500	
49 METALS:											
50 Iron ore.....	3,212,948	76,266	31,647	985,092	654,141	170,506	41,343	135,982	320,637	797,334	
51 Gold, silver, copper, lead, or zinc.	13,256,365	1,122,291	133,419	5,636,646	4,684,728	480,666	404,158	62,848	138,291	593,318	
52 MISCELLANEOUS.....	802,437	78,662	10,839	384,031	238,756	39,763	1,580	25,839	5,133	17,234	

## GENERAL TABLES.

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NONPRODUCING ENTERPRISES, FOR THE UNITED STATES, BY INDUSTRIES: 1919—Continued.

Expenditures for development (included in principal expenses).	Value of products.	POWER USED.														Electric motors run by current generated by the enterprise reporting.	
		Aggregate.	Total horse-power.	Prime movers.								Equipment operated by purchased power.					
				Steam engines (not turbines).		Steam turbines.		Internal-combustion engines.		Water wheels and turbines.		Electric motors.		Other.			
				Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.		Horse-power.		
Dollars.	Dollars.																
334,015,265	3,158,463,966	6,786,475	5,147,613	46,744	3,259,076	555	474,315	57,417	1,372,698	329	41,524	41,114	1,629,580	9,282	33,039	1,260,460	1
311,276,508	3,158,463,966	6,723,786	5,111,531	46,433	3,238,288	553	473,985	56,988	1,361,146	287	38,112	40,500	1,603,390	8,865	32,980	1,258,795	2
6,189,990 30,044,379 230,867,499	364,084,142 1,145,977,595 931,793,423	899,783 2,155,412 1,821,342	782,090 1,383,934 1,770,181	5,298 9,177 23,412	730,141 1,166,892 532,734	45 313 ---	50,665 195,779 ---	73 1,246 63,699	1,284 21,219 1,237,407	---	---	1,881 21,186 1,841	117,693 135,908 44,638	---	3,801 21,044 1,329	185,723 707,341 28,164	3 4 5
14,657,841 13,302,349 4,268,914 7,862,971	218,217,905 181,258,057 75,579,347 58,832,330	370,889 523,591 229,541 149,680	273,477 386,458 117,527 50,437	2,333 842 411 182	231,184 245,398 42,821 20,133	25 79 21 4	28,521 123,223 35,420 4,750	45 120 433 370	5,397 16,327 35,415 11,149	22 10 30 135	8,375 1,610 3,871 14,405	1,341 3,647 2,389 2,523	97,382 135,908 111,874 98,663	10 1,165 140 580	67,595 3,252 625 491	67,595 161,024 22,884 18,892	6 7 8 9
201,259 238,403 161,598 161,958	9,368,561 2,188,312 1,803,484 1,725,642	35,632 5,800 2,607 3,544	3,406 2,610 1,441 1,406	2 36 4 8	40 1,911 106 483	---	---	16 24 78 22	719 699 1,335 663	25 ---	2,647 ---	624 37 69 60	32,226 3,190 1,106 2,138	---	22 3 9 28	601 310 66 350	10 11 12 13
764,673 156,870 96,555 131,800 60,531 30,914	52,943,924 18,279,345 10,684,669 9,657,977 5,720,792 4,397,912	213,717 55,674 33,889 37,307 20,613 15,628	126,387 34,711 21,197 22,844 8,778 6,021	1,776 744 340 259 193 85	109,778 30,231 19,081 21,099 8,669 5,619	17 3 ---	10,701 2,300 ---	252 84 71	5,043 1,343 2,116 520	9 4 ---	865 777 ---	2,046 450 386 255	87,330 20,903 12,672 14,463	---	267 34 155 11	11,421 1,520 4,096 1,049	14 15 16 17
14,849 46,503 376,579 20,503 11,064	721,728 249,830 749,620 1,592,245 2,100,279	1,748 420 648 3,029 2,507	1,748 355 648 2,049 2,507	17 1 6 31 28	1,283 75 515 1,730 840	---	---	16 6 5 16 11	240 155 103 259 1,667	1 3 ---	225 125 ---	---	---	---	3 ---	120 ---	20 21 22 23
2,650 265,009 13,197 393,465 23,595	105,841 10,086,298 584,296 3,334,880 2,019,226	136 21,243 1,782 7,138 2,538	136 16,932 1,227 7,138 2,250	---	15,653 1,081 6,036 1,720	1 ---	100 ---	105 8 87 9	136 1,179 70 1,052 530	---	---	181 7 ---	4,271 555 ---	---	66 ---	1,815 ---	25 26 27 28
164,849 12,050 10,868 65,024	869,403 6,805,940 2,169,571 607,025	6,410 15,032 2,540 803	2,241 7,038 827 763	15 47 2 22	1,873 6,132 80 700	---	---	7 9 26 6	368 572 747 63	---	---	105 290 70 3	4,169 7,994 1,713 40	---	10 108 ---	552 1,447 ---	30 31 32 33
5,456 353,237 145,615 37,921 56,478 59,087	480,768 10,300,198 2,408,048 371,638 17,935,882 2,302,393	1,630 49,639 7,338 2,032 15,291 7,053	1,460 46,976 3,224 1,690 15,291 4,057	18 100 35 10 544 19	862 17,140 1,070 860 11,581 1,777	---	---	6 12,065 7 10 13 11	228 44 84 354 390 165	5 ---	370 ---	8 38 98 11	170 2,633 4,114 333	---	320 27 ---	33,107 3,696 ---	35 36 37 38 39 40
22,738,757		62,689	36,082	311	20,788	2	330	429	11,552	42	3,412	614	26,190	417	59	1,671	41
1,253,604 6,685,921		2,534 5,543	1,819 5,047	13 103	1,785 3,695	---	---	4 67	34 1,352	---	---	21 8	715 496	---	4 1	150 2	42 43
2,702,453 12,366,117		10,175 42,785	6,235 21,454	41 142	6,201 7,997	2	330	2 344	34 9,715	42	3,412	44 540	3,940 20,614	---	6 48	750 789	44 45
730,662		1,652	1,527	12	1,110	---	---	12	417	---	---	1	125	---	---	---	46

## MINES AND QUARRIES.

TABLE 4.—DETAILED STATISTICS FOR MINES, QUARRIES, AND WELLS, PRODUCING AND

STATE.	Number of enterprises.	Number of mines and quarries.	Number of wells productive Dec. 31.	LAND CONTROLLED (ACRES).				PERSONS ENGAGED IN INDUSTRY.									
				Mineral lands.			Timber and other lands.	Aggregate.	Proprietors and officials.						Clerks and other subordinate salaried employees.		
				Operated.	Owned.	Leased.			Total.	Proprietors and firm members.		Salaried officers.	Superintendents and managers.	Technical employees.			
																	Total.
1 United States.....	21,997	14,417	257,673	22,947,937	8,729,545	14,294,342	2,215,702	1,084,796	61,688	22,155	5,272	10,729	22,223	6,481	25,854	10,170	
2 Producing enterprises..	21,280	13,844	257,673	22,474,069	8,568,590	13,980,731	2,208,519	1,077,675	60,409	21,918	5,245	10,456	21,704	6,331	25,649	10,057	
3 Alabama.....	264	348	.....	728,806	636,368	93,278	102,552	34,632	989	41	6	248	452	218	846	218	
4 Arizona.....	155	172	.....	70,431	56,962	13,469	17,323	16,831	892	105	68	94	300	393	581	90	
5 Arkansas.....	126	126	124	70,416	18,181	58,315	14,912	4,073	307	109	63	59	124	15	114	22	
6 California.....	725	357	9,197	688,517	376,108	212,429	38,003	22,201	1,671	442	172	393	709	127	885	301	
7 Colorado.....	477	523	70	211,260	148,109	63,537	10,293	18,502	1,117	378	237	212	417	110	450	145	
8 Connecticut.....	41	47	.....	2,995	2,815	225	160	642	72	27	5	19	22	4	16	11	
9 Delaware.....	7	8	.....	264	250	14	9	130	10	2	1	4	.....	.....	8	1	
10 District of Columbia.....	3	3	.....	13	10	3	.....	15	3	.....	.....	.....	.....	.....	.....	.....	
11 Florida.....	36	55	.....	118,050	114,560	3,490	79,335	3,694	197	8	2	44	91	54	99	26	
12 Georgia.....	74	82	.....	37,736	22,095	15,651	17,862	2,608	149	33	4	45	63	8	40	13	
13 Idaho.....	82	83	.....	27,874	24,877	3,097	3,286	2,759	215	83	32	27	69	39	71	18	
14 Illinois.....	772	590	16,498	945,362	617,833	329,448	84,502	84,309	3,185	891	128	685	1,581	248	1,525	476	
15 Indiana.....	503	398	2,456	266,988	119,263	151,036	10,214	28,738	1,338	339	164	371	535	93	485	164	
16 Iowa.....	198	220	.....	68,724	33,536	36,433	3,703	12,034	550	200	143	128	195	13	156	68	
17 Kansas.....	814	238	12,600	549,300	69,621	480,629	14,161	18,689	1,656	807	123	286	412	151	588	309	
18 Kentucky.....	938	864	5,214	1,093,641	506,713	587,223	101,898	47,893	2,640	386	115	805	1,118	331	1,326	364	
19 Louisiana and Mississippi.....	137	4	2,479	329,869	17,196	312,673	8,565	6,095	403	61	2	74	223	45	345	119	
20 Maine.....	50	51	.....	3,562	2,602	995	3,623	1,093	95	52	36	15	24	4	9	10	
21 Maryland.....	126	161	.....	57,470	36,635	20,879	8,680	6,116	325	84	26	85	125	31	118	45	
22 Massachusetts.....	74	79	.....	5,223	4,701	522	1,131	1,910	140	50	10	43	40	7	44	22	
23 Michigan.....	122	165	19	114,356	90,683	23,799	430,773	33,202	848	19	6	121	379	329	889	173	
24 Minnesota.....	135	196	.....	24,836	5,899	19,874	259,703	18,502	543	40	19	63	253	187	672	82	
25 Missouri.....	468	494	.....	194,732	149,345	45,492	33,124	16,358	1,105	497	219	198	355	55	291	105	
26 Montana.....	259	269	28	107,541	79,300	29,653	12,132	17,345	744	293	199	68	218	165	412	60	
27 Nebraska.....	9	9	.....	1,081	821	260	.....	186	20	5	1	2	11	2	2	2	
28 Nevada.....	203	207	.....	45,114	35,901	9,236	7,030	4,860	461	151	120	86	156	68	143	25	
29 New Hampshire.....	30	33	.....	10,030	8,698	1,332	501	757	63	30	17	6	25	2	6	6	
30 New Jersey.....	97	102	.....	27,006	19,865	7,121	10,846	5,029	230	40	20	53	80	57	155	68	
31 New Mexico.....	85	103	1	673,051	642,019	31,032	38,760	7,607	302	69	29	20	108	105	176	29	
32 New York.....	700	147	14,156	365,463	79,668	285,795	119,168	7,913	1,246	896	202	144	168	38	300	105	
33 North Carolina.....	102	106	.....	10,015	4,284	5,731	1,068	2,108	184	90	36	29	59	6	27	7	
34 North Dakota.....	79	79	.....	17,734	0,305	8,429	824	939	135	75	23	16	27	17	24	6	
35 Ohio.....	2,283	1,064	35,440	1,914,023	418,597	1,519,201	29,889	56,736	5,408	3,309	509	791	1,159	149	1,279	751	
36 Oklahoma.....	1,934	284	44,735	1,844,305	192,771	1,651,746	5,468	40,855	3,929	1,106	58	840	1,656	327	1,378	1,034	
37 Oregon.....	50	52	.....	22,963	16,472	6,591	1,580	847	91	37	20	9	36	9	12	4	
38 Pennsylvania.....	5,807	2,621	77,325	4,352,082	1,750,822	2,615,052	359,053	350,338	18,491	8,822	2,126	2,042	6,077	1,550	6,318	2,132	
39 Rhode Island.....	14	15	.....	670	512	53	764	421	37	6	.....	5	20	6	5	10	
40 South Carolina.....	20	20	.....	31,684	31,630	104	10	1,003	51	15	2	14	20	2	16	8	
41 South Dakota.....	23	28	1	11,538	11,056	482	31,750	1,880	58	15	11	5	15	23	27	10	
42 Tennessee.....	203	263	14	361,660	205,832	156,856	112,318	15,450	618	67	17	170	306	75	282	80	
43 Texas.....	624	81	8,749	1,397,678	107,867	1,289,841	88,552	22,890	2,010	484	52	329	971	226	1,427	1,289	
44 Utah.....	141	154	.....	324,582	319,143	7,023	13,796	10,758	435	53	16	96	200	136	350	67	
45 Vermont.....	93	109	.....	16,418	14,417	1,631	2,121	3,239	209	60	18	52	86	11	49	45	
46 Virginia.....	202	216	.....	494,909	365,982	129,966	20,661	15,537	558	71	19	135	290	62	361	71	
47 Washington.....	83	93	.....	73,061	48,404	24,897	15,850	5,397	199	33	16	37	92	37	93	55	
48 West Virginia.....	1,714	1,325	27,363	4,578,747	1,090,20	3,514,884	82,230	110,327	5,939	1,067	124	1,363	2,173	736	2,871	705	
49 Wisconsin.....	92	107	.....	12,064	6,838	5,126	6,986	3,889	215	48	19	38	105	24	93	34	
50 Wyoming.....	106	87	1,084	264,685	58,584	206,113	3,280	10,273	290	19	7	87	145	30	212	72	
51 Nonproducing enterprises.	717	573	276	473,868	160,955	313,611	7,183	7,121	1,179	237	27	273	519	150	205	113	
52 Arizona.....	95	96	.....	36,501	34,732	1,769	339	952	122	5	3	40	64	13	18	14	
53 California.....	60	54	15	32,036	26,691	5,408	347	524	100	28	4	16	48	8	13	8	
54 Colorado.....	60	63	.....	11,377	6,118	5,342	399	603	105	28	3	16	44	17	14	6	
55 Idaho.....	50	50	.....	20,513	17,683	2,830	155	455	73	8	2	13	42	10	5	4	
56 Kansas.....	13	3	25	24,990	941	24,651	.....	88	25	16	1	4	4	1	4	2	
57 Kentucky.....	11	3	36	26,139	3,370	22,769	20	133	62	49	.....	4	9	.....	1	2	
58 Louisiana.....	6	.....	11	20,870	30	20,940	.....	50	13	.....	.....	.....	11	2	1	4	
59 Michigan.....	6	6	.....	5,689	5,179	.....	.....	132	270	12	.....	2	6	4	6	7	
60 Minnesota.....	10	10	.....	1,202	.....	1,292	240	302	15	.....	.....	6	6	3	8	4	
61 Montana.....	36	36	.....	6,130	4,152	1,987	500	320	48	4	.....	10	30	4	6	3	
62 Nevada.....	118	118	.....	19,096	18,168	928	739	938	206	10	2	75	99	22	38	9	
63 New Mexico.....	18	19	.....	6,205	5,022	1,183	188	153	29	3	2	7	11	8	.....	.....	
64 Ohio.....	6	1	17	33,439	1,000	32,439	.....	180	5	.....	.....	2	3	.....	2	1	
65 Oklahoma.....	30	2	55	5,924	150	5,774	.....	73	26	3	.....	9	14	.....	.....	.....	
66 Oregon.....	6	6	.....	4,030	2,600	1,370	.....	42	4	1	.....	.....	2	1	2	.....	
67 Pennsylvania.....	13	10	8	9,047	6,947	2,100	63	152	39	18	3	2	6	13	1	2	
68 South Dakota.....	5	5	.....	2,331	1,181	1,150	640	78	7	1	.....	3	3	.....	1	1	
69 Texas.....	65	1	69	183,521	1,546	152,975	.....	344	84	10	6	26	40	8	42	32	
70 Utah.....	48	48	.....	16,878	15,242	1,636	1,720	488	76	23	.....	21	30	2	12	6	
71 Virginia.....	4	4	.....	3,195	2,095	1,100	703	137	10	.....	.....	2	4	4	7	1	
72 Washington.....	15	13	4	6,365	2,105												

1 Same number reported for one or more other months.

2 Includes 79 anthracite culm washeries and 81 river dredges.

3 Wells on which work was done during the year, not productive and number not included in United States total.



## GENERAL TABLES.

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## NONPRODUCING ENTERPRISES, FOR THE UNITED STATES, BY STATES: 1919.

PERSONS ENGAGED IN INDUSTRY—continued.																									
Wage earners.				Wage earners, Dec. 15 or nearest representative day.																				Capital.	
Average number.	Number, 15th day of—		Total.	Foremen, shift bosses, etc.		Engineers, holstmen, electricians, mechanics, etc.		Miners, quarrymen, and drillmen, including their helpers.		Timbermen, trackmen, and men engaged in hauling, tramming, etc.		Muckers, loaders, and others not classified.		In mills and beneficiating plants (above ground).	Under 16 years of age (above ground).	Females (above ground).			Dollars.						
	Maximum month.	Minimum month.		Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.								Above ground.	Below ground.			
987,184	Oct 1,057,820	Nov 785,067	386,932	700,526	10,528	15,698	135,685	30,349	31,388	397,636	25,396	139,052	136,646	126,793	46,811	222	612	7,103,623,496	1						
981,560	Oct 1,051,204	Nov 758,156	382,769	705,423	10,314	15,437	134,117	30,145	30,702	395,398	25,583	138,491	135,239	125,952	46,811	221	541	6,955,466,831	2						
32,579	Fe 34,682	No 28,781	9,862	24,022	387	543	2,792	1,058	887	13,858	1,332	4,712	2,905	4,751	1,558	.....	6	84,167,016	3						
15,268	Ja 19,965	Ap 12,808	7,231	9,891	261	330	2,251	542	880	3,532	219	2,550	2,093	2,838	1,527	.....	8	402,419,071	4						
3,630	Se 4,879	No 1,416	1,885	3,261	74	57	364	26	727	2,356	200	450	384	372	130	.....	1	8,688,453	5						
19,344	No 19,916	Ap 18,718	17,147	3,597	215	163	11,551	115	417	1,586	208	575	3,933	1,128	820	1	31	446,782,855	6						
16,790	De 18,155	No 15,175	5,703	14,090	247	388	1,507	519	428	8,375	397	2,458	2,249	2,350	875	3	44	147,154,042	7						
543	Jy 598	Fe 427	616	14	32	2	81	.....	198	12	51	.....	214	.....	40	.....	.....	3,557,209	8						
116	Je 153	Fe 51	132	.....	6	.....	11	.....	58	.....	.....	.....	50	.....	7	.....	.....	229,023	9						
12	Oc 19	Ja 6	11	.....	1	.....	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	0,632	10						
8,372	De 4,912	Je 1,836	4,898	.....	256	.....	985	.....	845	.....	274	.....	1,928	.....	610	1	52	58,067,662	11						
2,397	Aug 2,586	No 2,271	2,382	273	81	14	285	3	673	187	197	44	761	55	385	15	.....	6,184,470	12						
2,455	De 3,268	Se 1,648	1,516	2,229	70	80	296	91	133	850	32	458	5,298	12,605	588	11	.....	71,093,746	13						
79,123	Oc 80,321	No 16,782	14,880	75,566	485	930	6,667	2,207	729	43,002	924	10,822	5,298	12,605	777	20	.....	221,836,571	14						
20,751	Oc 31,544	No 5,818	6,934	25,623	338	474	2,051	881	962	14,191	588	5,581	2,363	4,493	634	2	4	63,198,281	15						
11,274	Ja 13,221	No 3,404	1,841	11,300	100	181	442	98	179	7,284	255	742	2,885	862	126	1	.....	16,099,094	16						
16,136	Ja 17,448	No 8,843	9,205	8,677	138	127	4,299	78	439	6,246	104	1,652	3,768	574	397	.....	.....	255,935,897	17						
43,503	Oc 48,834	No 35,516	13,321	36,339	445	952	3,800	1,004	1,482	10,584	1,575	6,901	5,796	7,295	103	8	.....	291,247,725	18						
5,228	De 6,680	Je 4,418	7,384	.....	2	.....	3,351	.....	21	.....	.....	4,030	4,030	.....	.....	5	.....	97,620,466	19						
979	Je 1,288	Fe 438	1,159	.....	51	48	5	127	341	27	147	.....	78	19	418	.....	.....	1,092,082	20						
5,628	Oc 6,221	Mh 5,101	1,842	4,469	69	125	293	181	501	3,213	163	665	768	335	48	2	.....	21,078,980	21						
1,704	Aug 2,032	Fe 1,017	1,880	21	76	2	204	.....	570	13	126	.....	545	4	359	1	.....	4,882,574	22						
31,292	Fe 34,720	Je 28,836	11,894	20,575	391	647	4,357	653	512	10,396	587	5,773	3,788	3,106	2,259	2	58	283,528,279	23						
17,205	Jy 18,804	De 15,109	9,842	9,253	434	299	3,267	287	1,010	5,362	775	1,493	3,335	1,872	521	2	2	310,095,559	24						
14,857	Ja 17,319	No 8,995	7,229	10,764	247	238	1,337	153	1,273	5,796	713	2,218	2,196	2,359	1,493	5	2	47,926,800	25						
10,129	Ja 20,911	No 13,022	4,226	13,039	167	513	1,188	463	109	7,432	112	3,815	1,173	816	1,447	4	4	209,289,955	26						
162	My 192	Ja 128	159	.....	9	.....	11	.....	61	.....	33	.....	42	.....	.....	1	.....	325,788	27						
4,231	Ja 5,118	Aug 3,366	2,725	2,517	221	183	693	69	110	1,210	207	459	398	626	1,097	.....	21	82,500,057	28						
4,682	Aug 5,887	Ja 344	773	16	22	1	75	.....	247	15	15	.....	55	.....	359	1	.....	1,688,509	29						
4,576	Se 4,780	Je 4,162	3,633	1,378	124	48	545	80	429	693	100	1,885	186	420	1	.....	1	16,905,356	30						
7,100	Ja 8,152	No 6,380	2,812	4,678	65	124	840	224	117	2,718	259	793	706	819	735	4	1	93,094,713	31						
6,202	Jy 6,690	Fe 5,553	4,832	1,484	104	81	1,261	120	754	454	248	157	1,847	672	628	.....	.....	95,440,438	32						
1,890	Se 2,062	Ja 1,696	1,903	176	79	14	88	8	548	51	242	46	448	57	498	.....	.....	2,250,494	33						
774	De 1,158	Je 472	318	836	15	16	42	16	35	550	35	153	191	96	66	2	76	1,905,347	34						
49,298	Se 50,792	No 18,793	16,837	40,291	494	660	7,352	1,507	1,707	18,163	975	7,729	5,034	12,235	375	.....	.....	256,057,996	35						
33,914	Oc 36,674	No 20,510	26,806	11,333	197	291	13,837	124	238	6,145	207	2,771	11,053	2,002	1,184	.....	2	740,757,178	36						
740	Se 834	Mh 555	651	322	27	13	101	37	139	139	82	60	225	73	102	.....	9	4,780,913	37						
323,397	Se 341,352	No 265,170	95,748	250,822	2,063	4,803	27,305	11,398	5,305	151,049	7,219	41,006	32,112	41,006	21,744	162	.....	1,317,519,289	38						
309	Se 438	Ja 246	420	2	20	1	53	.....	166	2	11	.....	100	.....	70	.....	.....	810,000	39						
933	Aug 1,031	Fe 784	1,003	29	34	2	82	.....	1	317	8	8	395	18	39	.....	5	3,205,232	40						
1,785	Jy 1,890	No 1,574	1,065	624	48	35	320	24	96	282	63	38	296	245	242	.....	2	28,131,922	41						
14,470	Oc 15,777	No 10,406	6,682	9,382	249	195	973	471	1,207	5,562	872	2,090	2,798	1,055	583	3	.....	51,466,345	42						
18,164	Se 20,975	Ja 14,661	18,715	2,732	131	65	9,839	86	232	1,883	148	509	8,166	209	199	10	35	361,084,392	43						
9,847	Ja 11,962	Je 8,072	4,536	6,370	190	159	1,124	494	327	2,510	943	1,516	1,014	1,691	938	.....	12	175,521,276	44						
2,939	Se 3,156	Fe 2,008	2,983	339	164	15	338	7	1,420	175	55	23	358	119	648	.....	3	10,710,088	45						
14,517	Oc 15,898	Ap 13,308	5,181	10,474	242	307	1,065	1,078	820	5,280	478	2,419	1,990	1,380	591	3	31	57,035,775	46						
5,050	Ja 5,956	No 1,844	1,982	3,971	96	135	492	195	257	2,344	148	998	638	299	351	3	6	22,914,934	47						
100,812	De 108,720	Mh 92,824	34,303	75,578	889	2,114	13,305	4,971	2,013	37,962	8,713	16,853	14,002	13,678	291	2	.....	533,188,835	48						
3,547	My 3,720	De 3,133	2,228	1,627	70	65	361	79	627	782	74	335	638	306	458	1	10	18,031,034	49						
9,690	Ja 10,939	Jy 8,942	3,948	6,608	71	101	2,375	297	150	3,260	212	1,065	1,077	1,876	54	2	62	101,774,873	50						
5,624	De 6,975	Fe 3,932	4,166	4,103	212	259	1,548	204	686	2,238	313	561	1,407	841	.....	1	71	183,156,605	51						
798	Se 928	Fe 508	422	763	25	49	188	40	20	416	39	44	141	214	.....	9	.....	20,214,991	52						
403	De 600	Ja 284	367	290	14	22	207	9	25	153	13	56	108	59	.....	1	.....	13,494,898	53						
478	Se 576	Ap 366	247	420	28	10	68	11	24	268	16	36	111	86	.....	21	.....	10,255,496	54						
373	Oc 484	Ja 232	170	279	12	16	37	8	25	164	6	38	90	53	.....	15	.....	8,973,508	55						
57	Se 90	Fe 20	57	29	2	3	19	4	.....	4	8	15	28	3	.....	3	.....	1,2,2							

TABLE 4.—DETAILED STATISTICS FOR MINES, QUARRIES, AND WELLS, PRODUCING AND

PRINCIPAL EXPENSES OF OPERATION AND DEVELOPMENT.											
STATE.	Total.	Salaries and wages.			Supplies and materials.	Cost of ore, coal and natural gas purchased as material or for resale.	Cost of fuel.	Cost of purchased power.	Royalties and rents.	Taxes—Federal, state, county, and local.	Contract work.
		Salaried officers, superintendents, managers, and technical employees.	Clerks and other subordinate salaried employees.	Wage earners.							
	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
1 United States.....	2,543,827,062	105,892,362	45,380,089	1,304,409,342	528,853,639	35,905,352	94,848,752	28,660,836	176,129,858	141,567,734	82,239,098
2 Producing enterprises.....	2,518,543,956	104,235,154	45,093,831	1,295,936,226	519,593,676	35,905,352	93,910,653	28,195,277	175,293,984	140,999,626	79,380,177
3 Alabama.....	53,430,551	2,538,339	1,346,495	30,229,723	7,480,910	.....	2,431,350	648,933	838,101	1,899,630	167,070
4 Arizona.....	60,429,191	2,465,825	1,293,504	26,193,312	14,632,835	1,528,056	4,132,257	1,245,268	438,926	7,752,425	740,783
5 Arkansas.....	7,718,693	441,616	180,211	4,573,291	1,235,726	165,786	330,146	111,115	386,925	174,443	139,434
6 California.....	98,944,077	3,646,344	1,495,206	31,748,170	31,816,525	875,751	4,424,508	2,622,717	10,910,833	10,026,745	1,377,278
7 Colorado.....	45,973,002	1,962,751	825,778	25,405,043	7,672,203	4,282,353	1,253,016	1,438,464	1,583,712	1,136,752	397,930
8 Connecticut.....	1,298,269	118,816	25,660	646,624	304,096	.....	75,788	44,586	10,604	45,057	27,038
9 Delaware.....	219,429	15,974	4,505	135,502	34,214	.....	19,559	.....	5,434	1,223	3,018
10 District of Columbia.....	10,730	.....	.....	8,150	1,284	.....	1,063	.....	128	105	.....
11 Florida.....	7,908,486	519,196	147,006	3,107,813	1,836,229	.....	1,613,472	74,224	140,815	408,529	121,202
12 Georgia.....	3,582,746	281,935	73,078	2,017,460	591,266	17,500	296,647	59,372	155,833	54,360	35,295
13 Idaho.....	8,304,819	399,426	133,645	4,201,024	2,028,256	.....	159,294	354,484	182,364	649,009	193,657
14 Illinois.....	142,852,787	7,490,424	2,633,404	94,178,504	18,716,093	91,659	4,810,013	974,466	6,636,176	6,890,455	431,555
15 Indiana.....	45,575,744	3,216,233	832,026	30,192,924	6,370,553	50,646	1,737,090	275,616	939,696	1,590,853	340,187
16 Iowa.....	17,187,080	1,064,602	279,095	12,466,426	2,072,308	.....	606,285	142,559	335,530	186,811	35,464
17 Kansas.....	79,933,866	2,135,884	1,164,010	21,948,799	33,097,630	298,353	4,067,088	238,487	10,712,223	2,273,748	3,997,644
18 Kentucky.....	86,728,587	5,467,309	1,843,307	49,550,588	15,618,091	41,104	1,937,821	584,928	5,814,424	2,605,300	3,265,715
19 Louisiana and Mississippi.....	28,412,211	937,341	509,459	7,504,657	7,761,445	740,522	2,812,084	924	4,312,372	1,738,953	2,043,444
20 Maine.....	1,572,661	102,200	16,079	1,051,796	203,187	.....	77,561	45,231	9,986	34,253	32,368
21 Maryland.....	8,790,841	630,956	153,703	6,151,744	1,178,074	.....	247,837	60,929	137,552	208,137	16,899
22 Massachusetts.....	3,304,302	252,058	72,544	2,068,844	494,249	.....	186,694	76,651	59,067	83,009	11,186
23 Michigan.....	91,340,001	2,775,974	1,535,585	50,400,187	15,204,063	.....	7,455,207	989,490	6,668,923	6,275,133	29,430
24 Minnesota.....	96,445,817	1,707,779	1,340,642	29,383,021	14,101,982	.....	4,155,158	526,794	17,642,811	26,074,651	1,512,999
25 Missouri.....	28,728,052	1,400,938	462,686	16,777,353	4,784,079	669	1,743,747	290,666	780,604	2,071,467	415,843
26 Montana.....	42,502,917	1,525,799	978,532	25,723,808	9,452,659	62,210	1,267,627	1,712,301	646,125	1,018,265	115,521
27 Nebraska.....	286,512	24,180	2,957	166,202	60,996	.....	11,800	9,376	9,715	1,286	.....
28 Nevada.....	16,443,538	866,955	232,893	7,401,113	5,339,511	.....	1,112,427	638,839	143,708	462,663	245,429
29 New Hampshire.....	1,197,304	82,864	13,460	825,547	144,046	.....	41,567	23,413	6,268	24,719	34,520
30 New Jersey.....	9,740,156	476,721	249,829	5,392,861	2,194,539	.....	621,584	98,354	276,555	371,765	57,948
31 New Mexico.....	18,044,497	733,249	417,797	10,493,857	3,879,948	9,566	1,292,269	68,950	835,920	131,506	131,506
32 New York.....	19,990,461	852,046	579,555	7,496,781	4,724,500	2,692,086	967,027	435,218	649,472	804,416	789,360
33 North Carolina.....	2,439,802	172,569	27,043	1,489,062	467,460	.....	213,392	7,339	36,071	21,121	5,745
34 North Dakota.....	1,591,639	120,788	38,853	1,020,126	283,633	.....	32,853	4,841	30,868	19,922	30,750
35 Ohio.....	103,790,793	5,599,867	2,442,357	58,109,904	16,116,949	3,092,567	2,949,460	1,181,608	6,339,816	4,028,780	3,929,476
36 Oklahoma.....	189,361,709	8,170,062	4,362,900	46,809,200	55,458,900	9,758,073	3,826,667	966,907	30,688,890	10,338,243	18,982,377
37 Oregon.....	1,930,790	125,452	22,369	992,957	545,949	.....	68,659	64,783	48,047	26,656	35,888
38 Pennsylvania.....	693,618,939	24,489,816	10,474,657	445,218,643	118,817,334	5,510,433	21,818,407	5,888,096	24,682,827	28,747,401	7,970,425
39 Rhode Island.....	760,075	67,693	14,983	399,643	146,637	.....	45,528	9,549	5,755	9,279	1,000
40 South Carolina.....	1,299,206	114,875	24,993	680,484	303,371	.....	122,170	28,270	7,512	17,556	.....
41 South Dakota.....	4,450,596	155,254	61,556	2,497,340	1,008,196	.....	238,703	45,316	6,805	425,485	11,941
42 Tennessee.....	21,115,569	1,258,804	379,591	12,967,338	3,892,397	.....	1,037,175	222,808	554,743	608,917	173,796
43 Texas.....	141,310,966	4,268,560	2,161,398	29,557,997	45,040,955	360,637	6,093,106	96,453	23,912,179	4,045,981	25,773,700
44 Utah.....	31,883,415	1,279,951	636,902	17,196,652	7,745,492	297,961	834,480	1,184,630	150,955	2,065,154	491,178
45 Vermont.....	5,645,298	365,479	83,254	3,041,551	1,272,796	.....	220,276	205,122	58,506	306,564	91,750
46 Virginia.....	26,190,879	1,149,079	541,033	16,108,249	4,760,370	.....	740,098	476,796	830,435	1,243,918	340,851
47 Washington.....	11,351,484	463,733	198,813	7,465,652	1,728,585	.....	788,730	158,600	177,429	283,318	86,624
48 West Virginia.....	217,866,739	10,840,047	4,114,202	119,577,949	40,740,077	5,871,497	3,921,485	2,987,311	14,845,553	11,078,927	3,889,691
49 Wisconsin.....	9,101,901	462,207	155,008	4,760,235	1,835,710	83,302	309,187	548,078	535,600	235,881	135,293
50 Wyoming.....	27,936,829	947,164	439,765	14,576,415	6,348,488	74,281	762,272	310,515	1,765,597	1,996,372	715,960
51 Nonproducing enterprises.....	25,343,106	1,657,208	286,258	5,473,116	9,259,963	.....	938,099	465,559	835,874	568,108	2,858,021
52 Arizona.....	3,131,808	242,669	30,969	1,227,673	1,125,341	.....	161,276	94,964	1,695	27,401	219,820
53 California.....	1,727,283	135,684	18,534	599,718	801,817	.....	42,646	47,133	12,271	13,943	55,637
54 Colorado.....	1,375,197	145,801	23,235	636,657	402,920	.....	57,241	40,567	23,688	18,983	26,055
55 Idaho.....	1,118,894	104,734	7,148	533,476	371,902	.....	46,558	11,466	14,138	6,951	22,431
56 Kansas.....	379,758	27,178	7,245	72,857	136,953	.....	8,044	34,846	26,722	537	65,376
57 Kentucky.....	295,272	20,913	1,576	71,516	116,254	.....	3,705	137	13,250	1,088	66,833
58 Louisiana.....	685,420	19,763	4,246	47,318	103,387	.....	10,672	.....	400,503	40,590	58,941
59 Michigan.....	804,445	30,474	14,097	344,303	292,498	.....	45,014	15,670	24,391	32,051	5,347
60 Minnesota.....	2,027,079	29,480	12,401	452,071	340,312	.....	78,209	27,028	103,591	308,192	675,795
61 Montana.....	774,698	51,763	3,502	439,802	200,287	.....	42,904	12,907	.....	6,226	17,307
62 Nevada.....	2,749,054	297,658	34,844	1,102,205	1,015,098	.....	59,032	102,532	436	27,762	109,487
63 New Mexico.....	390,931	46,674	4,567	216,533	88,487	.....	28,075	366	1,939	2,761	1,529
64 Ohio.....	514,354	11,300	2,920	209,790	259,048	.....	1,906	8,250	3,570	2,334	15,176
65 Oklahoma.....	664,035	20,510	4,685	85,189	274,760	.....	33,047	.....	45,074	2,883	198,887
66 Oregon.....	116,111	3,802	1,400	45,863	47,674	.....	1,409	.....	.....	1,789	14,474
67 Pennsylvania.....	412,665	24,935	1,445	134,705	166,573	.....	1,193	1,324	1,050	40,224	41,216
68 South Dakota.....	185,866	4,735	1,065	99,414	55,192	.....	9,402	4,497	.....	1,533	10,128
69 Texas.....	3,209,085	161,985	71,130	374,623	1,524,743	.....	129,614	.....	104,224	4,413	838,463
70 Utah.....	1,730,197	88,584	4,744	571,029	863,352	.....	20,489	48,623	17,076	9,882	126,418
71 Virginia.....	228,085	21,158	10,464	99,559	76,802	.....	6,684	6,574	1,200	1,762	4,482
72 Washington.....	397,649	36,753	1,833	163,795	161,693	.....	6,810				

<sup>1</sup> Includes enterprises as follows: Alabama, 2; Arkansas, 2; Connecticut, 1; Florida, 1; Georgia, 1; Illinois, 1; Iowa, 1; Maine, 1; Missouri, 1; New York, 1; North Carolina, 2; Tennessee, 1.

## GENERAL TABLES.

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## NONPRODUCING ENTERPRISES, FOR THE UNITED STATES, BY STATES: 1919.

Expenditures for development (included in principal expenses).	Value of products.	POWER USED.															
		Aggregate.	Prime movers.								Equipment operated by purchased power.			Electric motors run by current generated by the enterprise reporting.			
			Total horse-power.	Steam engines (not turbines).		Steam turbines.		Internal-combustion engines.		Water wheels, and turbines.		Electric motors.		Other.	Number.		Horse-power.
				Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.				
Dollars.	Dollars.																
334, 015, 265	3, 158, 463, 966	6, 786, 475	5, 147, 613	46, 744	3, 259, 076	555	474, 315	57, 417	1, 372, 698	329	41, 524	41, 114	1, 629, 589	9, 282	33, 039	1, 260, 466	1
311, 276, 508	3, 158, 463, 966	6, 723, 786	5, 111, 531	46, 433	3, 238, 288	553	473, 985	56, 988	1, 361, 146	287	36, 112	40, 500	1, 603, 390	9, 865	32, 980	1, 258, 795	2
897, 964 4, 331, 310 431, 908 27, 656, 157 3, 864, 109	59, 866, 040 88, 478, 111 8, 404, 537 163, 770, 243 51, 217, 038	145, 775 168, 091 21, 365 313, 213 116, 351	92, 657 138, 629 15, 552 206, 805 46, 481	736 262 174 3, 144 484	90, 097 52, 084 13, 003 88, 052 40, 012	6 21 5 2	1, 667 73, 037 1, 750 1, 050	34 166 39 3, 053 55	819 12, 858 2, 549 105, 615 1, 159	9 ----- ----- 107 21	74 ----- ----- 11, 388 4, 260	1, 147 632 141 2, 882 1, 802	53, 118 26, 547 5, 813 103, 363 99, 630	----- 1, 015 ----- 45 190	701 1, 155 124 413 342	30, 085 77, 645 3, 184 10, 382 12, 625	3 4 5 6 7
10, 747 ----- 301, 831 77, 750	1, 649, 603 243, 647 15, 627 8, 976, 413 4, 082, 152	8, 520 660 97 44, 969 13, 023	4, 831 660 97 42, 689 9, 502	64 10 ----- 83 129	4, 675 632 ----- 12, 428 7, 909	----- ----- 17 1	----- ----- 17, 751 100	7 4 52 25	80 28 97 393	2 ----- ----- 7	76 ----- 1, 100	46 ----- 34 62	3, 689 ----- 2, 280 3, 404	----- ----- ----- 30	8 ----- 272 31	44 ----- 31, 710 3, 797	8 9 10 11 12
532, 077 4, 331, 319 2, 111, 492 587, 368 23, 448, 055	11, 840, 301 178, 673, 085 52, 840, 252 18, 473, 558 90, 238, 204	31, 239 318, 231 120, 663 32, 171 133, 984	2, 811 261, 964 100, 632 19, 626 121, 477	23 2, 077 898 256 903	1, 103 208, 782 92, 120 17, 078 36, 605	2 42 16 4	930 19, 728 2, 052 1, 690	18 1, 855 349 94	364 33, 424 0, 460 858	16 ----- ----- 7	414 ----- ----- 585	545 1, 432 785 368 499	28, 248 56, 267 20, 031 12, 540 12, 507	180 30 ----- 5 -----	19 3, 218 875 88 308	1, 120 97, 160 43, 102 4, 670 8, 896	13 14 15 16 17
12, 847, 964 11, 001, 642 10, 807 191, 878 23, 813	98, 480, 910 40, 016, 585 1, 823, 442 9, 098, 577 4, 175, 699	148, 893 144, 189 6, 277 18, 660 12, 498	102, 176 86, 101 3, 562 14, 018 7, 736	716 1, 389 74 172 194	65, 827 31, 009 3, 397 12, 302 7, 406	43 18 ----- 1 -----	23, 785 720 ----- 750	815 1, 878 14 24 3	12, 563 54, 372 165 516 45	----- ----- ----- 3 2	----- ----- ----- 450 285	1, 174 2 ----- 139 101	46, 717 34 2, 715 4, 642 4, 757	----- ----- ----- ----- 5	1, 953 53 ----- 94 1	53, 817 791 ----- 3, 872 10	18 19 20 21 22
2, 657, 899 9, 933, 680 1, 141, 088 3, 145, 120 41, 582	103, 870, 089 130, 399, 254 32, 365, 694 49, 923, 721 292, 766	337, 882 144, 189 100, 180 143, 718 1, 517	274, 084 114, 354 82, 967 50, 593 1, 317	1, 082 1, 293 673 117 18	208, 797 111, 698 51, 653 41, 987 1, 282	28 4 20 13	55, 770 1, 620 25, 560 4, 350	15 30 170 2	417 1, 217 5, 754 1, 033 35	16 ----- ----- 20 -----	8, 100 ----- ----- 3, 223	979 578 613 1, 543 13	63, 798 29, 845 17, 183 93, 125 530	----- ----- 90 ----- -----	1, 663 466 486 179 -----	107, 750 13, 593 16, 850 6, 696 -----	23 24 25 26 27
2, 486, 280 55, 049 831, 085 3, 221, 461 2, 222, 809	18, 053, 984 1, 568, 195 9, 308, 902 18, 872, 560 25, 131, 093	50, 786 4, 330 33, 901 59, 876 91, 339	18, 342 2, 673 26, 847 55, 031 62, 420	34 73 137 66 900	9, 035 2, 625 16, 857 22, 779 30, 055	1 ----- 7 55 8	3, 600 ----- 10, 665 22, 779 9, 720	193 5 35 94 1, 533	5, 539 48 425 9, 653 21, 726	5 ----- 1 4 -----	168 ----- ----- 20 925	801 49 104 130 595	32, 444 1, 663 7, 054 4, 845 28, 913	----- ----- ----- ----- -----	290 213 1, 257 139	10, 083 8, 742 24, 554 6, 321	28 29 30 31 32
34, 834 93, 885 7, 931, 195 55, 218, 905 266, 972	2, 736, 543 1, 927, 304 134, 518, 505 281, 927, 732 1, 884, 871	5, 039 2, 037 337, 611 448, 173 6, 264	4, 041 1, 783 272, 716 415, 781 1, 579	81 28 2, 239 2, 640 27	4, 341 1, 630 138, 339 99, 792 1, 201	----- ----- 4 4 -----	----- 3, 275 700	----- 38 6, 308 9, 603	125 253 131, 074 314, 989 141	1 ----- 1 2 10	175 ----- 28 300 237	14 24 1, 066 695 111	393 251 64, 775 31, 492 4, 685	----- ----- 120 900 -----	19 9 1, 620 207 22	501 100 40, 687 6, 161 464	33 34 35 36 37
24, 930, 973 14, 200 111, 693 41, 903 537, 864	919, 451, 109 952, 204 1, 350, 747 5, 314, 516 23, 292, 114	1, 999, 422 3, 000 4, 656 11, 844 56, 685	1, 638, 599 3, 022 4, 656 9, 834 39, 297	10, 841 1, 274, 108 48 40 327	1, 274, 108 2, 454 275 29, 730 5, 887 20, 372	146 6 4 1 5	137, 213 ----- 2, 700 2, 085 1, 600 1, 530	14, 433 ----- 1, 829 22 37	226, 513 ----- 50, 240 471 32 337	12 ----- 1 8 7 5	765 ----- 2 1, 797 1, 671 1, 402	8, 521 29 36 91 324	355, 170 1, 156 2, 084 2, 016 17, 378	5, 653 ----- ----- ----- 10	12, 146 4 311 342	471, 216 200 11, 915 12, 662	38 39 40 41 42
71, 703, 732 3, 168, 643 26, 460 919, 206	169, 378, 058 41, 510, 802 8, 535, 030 29, 363, 449	129, 063 80, 131 28, 119 57, 880	125, 909 31, 083 8, 960 23, 641	2, 454 275 120 268	72, 967 29, 730 5, 887 20, 372	6 4 1 5	2, 700 2, 085 1, 600 1, 530	1, 829 22 37	50, 240 471 32 337	1 8 7 5	2 1, 797 1, 671 1, 402	129 2, 300 696 1, 012	3, 154 54, 733 19, 109 34, 239	----- 815 20 -----	163 166 26 325	4, 623 8, 645 664 12, 205	43 44 45 46
771, 066 17, 516, 298 650, 622 6, 060, 835	13, 329, 129 295, 606, 620 10, 560, 833 41, 923, 783	38, 198 704, 279 26, 766 62, 757	24, 332 485, 599 7, 704 48, 817	126 4, 260 97 317	20, 662 216, 152 6, 971 22, 916	7 40 ----- 16	1, 781 18, 969 ----- 18, 240	41 10, 523 ----- 238	1, 530 250, 778 458 7, 661	4 ----- 6 -----	350 ----- 275 -----	282 6, 185 500 355	13, 666 218, 323 19, 062 13, 940	200 57 ----- -----	315 2, 895 14 108	10, 619 95, 084 1, 030 4, 474	47 48 49 50
22, 738, 757	-----	62, 689	36, 082	311	20, 768	2	330	429	11, 552	42	3, 412	614	26, 190	417	59	1, 671	51
3, 078, 718 1, 512, 352 1, 332, 902 1, 097, 535 273, 425	----- ----- ----- ----- -----	9, 279 6, 504 4, 614 3, 272 1, 547	6, 107 3, 084 1, 926 2, 373 627	15 26 22 26 7	1, 166 622 1, 026 1, 407 554	----- ----- ----- ----- -----	----- ----- ----- ----- -----	131 29 8 29 4	4, 941 547 172 536 73	----- 10 6 10 -----	----- 1, 915 692 430 -----	58 64 73 18 17	3, 172 3, 420 2, 563 867 820	----- ----- 155 32 100	10 13 1 ----- 2	173 281 25 ----- 10	52 53 54 55 56
255, 112 209, 977 658, 508 1, 583, 584 712, 084	----- ----- ----- ----- -----	686 181 2, 960 3, 816 2, 796	406 181 980 1, 875 1, 736	6 6 4 22 18	366 181 650 1, 866 1, 317	----- ----- 2 ----- -----	----- ----- 330 ----- -----	----- ----- ----- ----- -----	40 ----- ----- ----- -----	----- ----- ----- ----- -----	----- ----- ----- ----- -----	2 30 25 19	280 1, 980 1, 941 1, 060	----- ----- ----- -----	2 ----- ----- 1	140 ----- ----- 15	57 58 59 60 61
2, 603, 067 296, 233 508, 480 604, 295 114, 237	----- ----- ----- ----- -----	8, 999 1, 507 1, 371 1, 061 235	2, 554 1, 437 96 1, 061 235	3 23 2 17 3	90 1, 195 46 777 110	----- ----- ----- ----- -----	----- ----- ----- ----- -----	96 17 2 14 1	2, 464 242 50 284 20	----- ----- ----- ----- -----	----- ----- ----- ----- -----	158 1 10 -----	6, 422 70 275 -----	20 ----- ----- -----	3 ----- ----- -----	45 ----- ----- -----	62 63 64 65 66
301, 516 148, 669 2, 880, 250 1, 695, 273 224, 202	----- ----- ----- ----- -----	169 895 2, 259 3, 498 435	108 600 2, 259 796 435	4 7 42 4 3	85 600 1, 763 195 350	----- ----- ----- ----- -----	----- ----- ----- ----- -----	2 ----- 25 18 1	23 496 501 10	----- ----- 1 1	----- ----- 40 75	5 116	51 2, 592	----- 110	----- -----	----- 230	67 68 69 70 71
381, 662 133, 107 359, 085 782, 222 896, 256	----- ----- ----- ----- -----	735 47 1, 480 721 4, 605	560 47 1, 480 621 4, 398	5 ----- 7 18 21	280 ----- 1, 335 621 4, 150	----- ----- ----- ----- -----	----- ----- ----- ----- -----	10 2 15 100 6	250 47 145 100 248	1 ----- ----- ----- -----	30 ----- ----- ----- -----	5 ----- ----- ----- 3	175 ----- ----- 207	----- ----- ----- -----	----- ----- 400 350	72 73 74 75 76	

## MINES AND QUARRIES.

TABLE 5.—WAGE EARNERS, BY MONTHS, ALL MINING ENTERPRISES, BY INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 16TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent-minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	937,184	1,030,037	989,301	973,868	956,932	963,827	970,832	1,011,390	1,033,038	1,050,107	1,057,820	768,007	1,038,989	72.3
Producing enterprises.....	981,560	1,025,871	985,369	969,499	952,305	958,506	965,230	1,005,219	1,031,628	1,043,719	1,051,204	758,156	1,032,014	72.1
FUELS:														
Coal, anthracite.....	147,372	146,241	145,985	143,437	142,691	144,925	145,010	148,397	149,220	149,522	150,847	150,594	151,595	94.2
Coal, bituminous.....	545,798	589,864	561,861	550,126	532,682	535,110	541,647	566,897	583,120	593,304	599,560	598,266	587,149	51.4
Petroleum and natural gas.....	93,205	85,225	86,119	87,130	88,120	90,015	91,156	94,389	98,570	99,570	99,332	99,541	100,293	84.9
METALS:														
Iron ore.....	45,741	47,433	47,205	46,712	44,822	45,631	44,625	46,286	46,754	46,911	45,772	44,126	42,555	89.6
Copper.....	43,717	58,625	49,136	43,701	40,675	38,374	37,385	39,919	41,386	42,595	44,395	45,246	43,267	65.3
Lead and zinc.....	21,884	25,124	23,434	22,574	21,506	20,196	19,949	20,207	21,050	21,162	21,579	22,631	23,196	79.4
Gold and silver, lode mines.....	15,436	14,778	14,915	15,096	14,921	15,184	15,540	16,319	16,469	15,349	15,536	15,460	15,670	89.7
Gold and silver, placer mines.....	1,380	1,274	1,312	1,274	1,317	1,424	1,420	1,499	1,430	1,404	1,425	1,433	1,348	85.0
Manganese.....	909	1,202	1,323	1,155	1,159	1,115	767	782	758	745	656	622	624	47.0
Quicksilver.....	748	990	775	769	695	676	779	766	758	742	708	715	703	60.1
Rare metals.....	633	921	834	727	544	530	567	557	569	558	646	598	545	57.5
STONE:														
Limestone.....	22,069	18,085	17,398	18,847	21,476	22,092	23,667	24,599	25,655	25,303	23,901	22,538	20,367	67.8
Granite.....	8,049	8,669	8,844	6,504	7,771	8,620	8,945	9,071	9,228	9,024	9,101	8,741	8,070	61.4
Sandstone.....	4,287	3,471	3,505	3,681	4,128	4,411	4,533	4,667	4,901	4,916	4,726	4,598	4,047	66.0
Basalt.....	3,336	2,037	2,037	2,456	3,257	3,680	3,828	3,985	4,097	3,906	3,908	3,710	3,131	49.7
Slate.....	3,513	2,852	2,909	3,060	3,415	3,580	3,704	3,858	3,572	3,594	3,729	3,896	3,927	72.6
Marble.....	1,732	1,459	1,497	1,641	1,688	1,778	1,826	1,833	1,865	1,810	1,875	1,759	1,753	77.8
MISCELLANEOUS:														
Abrasive materials.....	317	340	348	303	255	306	307	336	342	369	308	288	302	69.1
Asbestos.....	146	157	156	170	197	212	242	594	528	401	407	399	425	17.8
Asphalt.....	324	157	156	170	197	212	242	594	528	401	407	399	425	26.3
Barytes.....	919	773	756	782	826	887	938	980	983	1,089	1,065	985	964	69.4
Bauxite.....	738	755	656	636	637	612	561	643	828	900	847	827	934	62.2
Chromite.....	31	36	39	25	27	36	38	31	25	35	28	33	19	48.7
Clay.....	5,453	4,849	4,681	4,851	5,373	5,522	5,582	5,771	5,883	6,020	5,853	5,538	5,513	77.8
Feldspar.....	349	291	297	342	334	347	371	346	385	395	352	339	379	73.7
Fluorspar.....	1,124	1,377	1,050	857	1,007	998	1,001	1,031	1,134	1,288	1,313	1,211	1,112	69.5
Fuller's earth.....	824	687	691	715	784	829	840	880	916	923	858	870	895	74.4
Graphite.....	419	432	398	378	454	470	447	398	407	475	415	398	556	74.9
Gypsum.....	2,101	1,674	1,649	1,782	1,918	2,078	2,092	2,350	2,327	2,532	2,713	2,715	2,512	55.0
Magnetite.....	448	482	436	342	282	245	250	435	534	615	629	656	670	35.2
Mica.....	448	414	400	416	430	430	431	439	464	478	490	487	497	80.5
Millstones.....	37	26	28	37	40	42	42	41	40	40	38	38	34	61.9
Mineral pigments.....	185	159	155	181	175	198	178	217	193	193	193	187	191	71.4
Phosphate rock.....	4,373	4,583	4,865	4,741	4,972	3,259	2,802	3,419	3,873	4,094	4,639	5,358	5,771	50.3
Pyrite.....	1,172	1,651	1,618	1,444	1,124	1,078	988	1,076	1,065	1,118	1,017	955	930	56.3
Silica.....	166	138	142	161	161	171	217	224	220	185	144	132	109	48.7
Sulphur.....	1,129	1,492	1,390	1,406	1,545	1,503	814	832	845	883	932	973	933	52.7
Talc and soapstone.....	958	902	844	876	885	904	931	986	1,005	1,022	1,036	1,058	1,047	79.5
Nonproducing enterprises.....	5,624	4,166	3,933	4,369	4,627	5,321	5,602	6,171	6,410	6,388	6,616	6,911	6,975	56.4
FUELS:														
Coal.....	471	211	232	268	278	291	382	463	507	625	735	833	827	25.3
Petroleum and natural gas.....	454	260	274	325	352	424	450	461	531	538	577	622	634	41.0
METALS:														
Iron ore.....	598	819	595	575	634	698	639	608	624	527	452	477	530	55.2
Gold, silver, copper, lead or zinc.....	3,691	2,565	2,625	2,880	3,079	3,623	3,848	4,306	4,325	4,254	4,284	4,276	4,327	58.4
MISCELLANEOUS, all other.....	410	311	306	321	284	285	283	335	423	444	568	703	657	40.3

## GENERAL TABLES.

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TABLE 6.—WAGE EARNERS, BY MONTHS, ALL MINING ENTERPRISES, BY STATES: 1919.

[The month of maximum employment for each state is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent-minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States.....	987,184	1,030,037	989,301	973,868	956,932	963,827	970,832	1,011,390	1,038,038	1,050,107	1,057,820	765,067	1,038,989	72.3
Producing enterprises.....	981,560	1,025,871	985,309	969,409	952,305	958,506	965,230	1,005,219	1,031,628	1,043,719	1,051,204	758,156	1,032,014	72.1
Alabama.....	32,579	34,504	34,682	34,252	32,719	31,117	31,042	31,751	32,521	32,938	33,747	28,781	32,806	83.0
Arizona.....	15,268	19,065	16,273	13,358	12,808	13,199	13,280	14,366	15,588	16,036	16,441	16,484	16,318	67.2
Arkansas.....	3,630	3,783	3,404	3,224	3,141	3,240	3,288	4,062	4,542	4,879	4,760	4,416	3,821	29.0
California.....	19,344	19,552	19,319	19,238	18,710	19,208	19,079	19,266	19,176	19,182	19,555	19,816	19,831	94.0
Colorado.....	16,790	18,151	17,600	17,460	16,716	15,723	15,681	16,424	17,086	16,782	16,527	16,176	18,155	83.6
Connecticut.....	543	447	427	401	535	590	591	598	583	558	565	578	553	71.4
Delaware.....	116	58	61	73	121	136	153	147	144	132	118	127	132	33.3
District of Columbia.....	12	6	6	8	9	14	17	12	12	17	19	13	11	31.6
Florida.....	3,372	3,848	3,903	3,861	3,934	2,202	1,896	2,330	2,745	2,961	3,650	4,282	4,912	37.4
Georgia.....	2,307	2,386	2,408	2,393	2,339	2,288	2,328	2,501	2,586	2,510	2,479	2,871	2,275	87.8
Idaho.....	2,455	2,773	2,733	2,067	2,056	2,301	2,517	2,746	2,175	1,648	2,008	3,078	3,268	50.4
Illinois.....	79,123	89,224	86,988	85,233	82,026	80,235	79,033	81,643	83,906	87,056	89,321	16,782	88,029	18.8
Indiana.....	26,751	29,961	28,200	26,039	25,837	27,074	26,875	28,145	29,434	30,907	31,544	6,818	30,269	18.4
Iowa.....	11,274	13,221	12,926	12,592	11,194	10,868	10,622	11,012	11,811	12,524	13,052	5,404	12,062	25.7
Kansas.....	16,136	17,449	17,262	17,207	16,851	17,214	16,982	17,191	16,397	16,397	16,415	8,845	15,425	50.7
Kentucky.....	43,563	43,980	40,949	40,949	40,081	41,154	42,203	46,231	47,350	47,373	48,834	55,516	48,136	72.7
Louisiana.....	5,221	4,913	4,706	4,943	5,047	4,864	4,407	4,522	5,014	5,505	5,655	6,401	6,674	66.0
Maine.....	979	461	438	712	968	1,236	1,288	1,175	1,204	1,141	1,116	1,076	933	34.0
Maryland.....	5,628	5,829	5,305	5,101	5,171	5,424	5,490	5,743	6,119	6,157	6,221	5,144	5,862	82.0
Massachusetts.....	1,704	1,037	1,017	1,236	1,757	1,889	1,946	1,978	2,032	1,956	1,907	1,913	1,690	50.0
Michigan.....	31,292	34,436	34,729	34,420	30,655	29,785	28,886	29,599	30,303	31,365	31,780	29,202	30,414	83.0
Minnesota.....	17,265	16,033	16,784	16,010	17,054	18,043	18,587	18,804	18,667	18,178	17,348	16,383	15,109	80.3
Mississippi.....	7	7	7	6	12	15	11	17	12	6	6	6	6	29.4
Missouri.....	14,857	17,319	16,479	15,406	15,014	14,501	14,401	14,871	14,907	15,672	15,729	8,905	15,020	51.8
Montana.....	16,129	20,911	16,661	16,017	15,329	15,104	15,324	15,910	16,197	15,530	16,685	18,022	15,958	66.6
Nebraska.....	162	128	134	157	174	192	176	163	169	179	169	153	150	66.7
Nevada.....	4,231	5,118	4,275	4,143	4,063	4,227	4,428	4,381	3,366	3,656	4,081	4,467	4,567	65.8
New Hampshire.....	682	344	360	398	571	708	830	839	887	860	871	818	698	38.8
New Jersey.....	4,576	4,704	4,592	4,647	4,703	4,526	4,168	4,713	4,741	4,780	4,678	4,328	4,278	87.1
New Mexico.....	7,100	8,152	7,584	7,437	7,236	7,013	6,536	6,561	7,084	7,102	6,975	6,980	6,840	78.3
New York.....	6,202	6,180	5,553	5,627	6,040	6,429	6,450	6,690	6,569	6,537	6,474	6,108	5,767	83.0
North Carolina.....	1,890	1,666	1,728	1,846	1,849	1,852	1,878	1,931	1,898	2,062	1,996	1,966	1,978	82.3
North Dakota.....	774	1,011	807	807	636	497	472	518	550	776	931	1,054	1,158	40.8
Ohio.....	49,298	51,820	48,325	48,005	47,838	50,336	52,236	53,518	56,340	56,792	56,448	18,793	51,125	33.1
Oklahoma.....	33,914	32,940	32,531	32,713	33,058	33,205	33,015	34,320	35,886	36,617	36,674	29,510	36,499	80.5
Oregon.....	740	617	565	555	580	695	721	810	869	934	912	826	796	59.4
Pennsylvania.....	323,397	330,698	323,086	318,975	314,592	315,010	321,150	333,232	340,380	341,352	340,310	285,170	336,197	77.7
Rhode Island.....	569	246	281	303	349	389	393	427	424	438	395	404	379	50.2
South Carolina.....	933	703	784	913	922	896	893	974	1,031	1,006	958	1,010	1,006	76.0
South Dakota.....	1,785	1,801	1,868	1,800	1,819	1,793	1,826	1,890	1,866	1,828	1,663	1,574	1,632	83.3
Tennessee.....	14,470	15,364	14,322	14,114	13,677	14,572	14,731	14,974	15,304	15,227	15,777	10,406	15,172	66.0
Texas.....	18,164	14,661	15,003	15,042	16,688	17,263	17,269	18,459	20,420	20,975	20,853	19,474	20,971	69.9
Utah.....	9,847	11,962	10,686	9,283	8,937	8,098	8,072	9,184	10,069	10,319	10,315	10,577	10,712	87.5
Vermont.....	2,936	2,725	2,608	2,721	2,856	3,015	3,156	3,146	2,877	2,860	3,005	3,082	3,091	85.5
Virginia.....	14,547	14,922	14,541	13,722	13,308	13,746	13,732	14,821	15,096	15,224	15,398	14,982	15,062	86.4
Washington.....	5,080	5,956	5,737	5,672	5,321	5,104	4,948	5,195	5,455	5,659	5,567	1,844	4,142	31.0
West Virginia.....	100,812	100,187	93,274	92,324	93,737	97,313	99,454	104,774	106,637	107,801	107,778	97,245	108,720	85.4
Wisconsin.....	9,099	9,447	9,368	9,452	9,636	9,720	9,676	9,712	9,717	9,604	9,606	9,479	9,133	84.2
Wyoming.....	9,099	10,939	10,407	10,138	9,565	9,123	8,949	8,942	9,476	9,723	9,788	9,016	10,272	81.7
Nonproducing enterprises.....	5,624	4,166	3,922	4,369	4,627	5,321	5,602	6,171	6,410	6,388	6,616	6,911	6,975	56.4
Alabama.....	140	180	176	170	159	158	129	129	127	122	112	112	109	58.9
Arizona.....	798	637	608	716	705	811	879	892	909	928	879	811	842	61.2
Arkansas.....	5	6	6	6	6	6	6	6	7	7	7	7	8	75.0
California.....	403	284	285	292	309	343	322	361	433	490	528	533	606	46.9
Colorado.....	478	390	378	410	366	401	468	552	549	576	556	551	539	63.5
Connecticut.....	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Florida.....	126	7	7	7	44	48	44	75	142	160	251	408	340	10.8
Georgia.....	5	5	5	5	4	7	7	7	9	8	7	7	7	44.4
Idaho.....	373	232	257	240	281	347	404	462	462	455	484	437	406	47.9
Illinois.....	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Iowa.....	28	28	28	28	23	27	24	22	24	26	24	24	24	31.4
Kansas.....	57	28	20	32	20	22	67	75	82	90	75	88	85	22.2
Kentucky.....	68	32	46	93	74	67	76	74	79	79	60	73	72	34.4
Louisiana.....	32	19	20	20	26	21	19	33	32	34	51	53	56	33.9
Maine.....	9	12	12	12	12	11	11	11	10	10	6	6	6	50.0
Michigan.....	245	267	233	215	220	254	177	265	282	264	263	240	251	62.8
Minnesota.....	275	463	236	275	292	320	296	275	293	220	168	180	226	36.3
Missouri.....	11	3	3	3	10	26	19	21	19	10	22	1	1	3.8
Montana.....	263	189	200	198	225	248	td							

## MINES AND QUARRIES.

TABLE 7.—FUEL USED, ALL MINING ENTERPRISES, BY INDUSTRIES: 1919.

INDUSTRY.	COAL.		Coke (tons, 2,000 pounds).	Wood (cords).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Natural gas (1,000 cu. ft.).
	Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).					
All industries.....	8,697,367	16,339,839	59,794	131,803	9,747,151	156,936	1 103,432,217
Producing enterprises.....	8,697,365	16,275,751	53,795	113,850	9,537,443	143,593	1 102,784,812
FUELS:							
Coal, anthracite.....	8,548,201	4,096			671	1,331	
Coal, bituminous.....		11,124,904	14,264	594	3,285	18,963	865,907
Petroleum and natural gas.....		67,216		2,852	5,808,610	45,654	99,967,358
METALS:							
Iron ore.....	69,753	1,499,612	24,070	912	3,807	3,550	1 89,354
Copper.....	14,889	1,364,172	9,744	5,236	1,322,100	6,932	33,456
Lead and zinc.....	33,528	503,278	272	3,570	72,517	6,261	1,390,098
Gold and silver, lode mines.....	45	191,526	369	17,755	130,269	15,821	
Gold, placer mines.....	72	992	1	1,691	114	491	
Manganese.....		6,057		355	105	995	
Quicksilver.....	1	5		3,291	20,957	3,857	
Rare metals.....		3,102		1,158	300	1,933	
STONE:							
Limestone.....	5,409	673,989	937	4,765	33,221	11,397	5,887
Granite.....	1,723	115,250	55	4,297	13,164	2,411	
Sandstone.....	2,418	128,832	1,530	160	8,621	1,423	145,943
Basalt.....	2,090	84,566		2,129	15,390	620	
Slate.....	8,762	34,053		214	36	1	
Marble.....	210	31,153		328		170	
MISCELLANEOUS:							
Abrasive materials.....	3,359	3,016		433	44	332	
Asbestos.....		300			300	100	
Asphalt.....		5,427		38	2,761	154	
Barytes.....		5,874		500	83	659	
Bauxite.....		10,914		7,962	575	344	275,977
Chromite.....						150	
Clay.....	345	84,065		1,424	51,646	1,819	9,009
Feldspar.....		3,124		200	87	134	
Fluorspar.....		41,677		710	151	1,220	
Fuller's earth.....	100	10,857		9,878	82,461	713	
Graphite.....	5,100	2,853		690	1,785	487	
Gypsum.....		76,086	1,534	43	62,893	1,762	
Magnesite.....		22,178	645	780	66,563	1,124	
Mica.....	3	2,655		881	7	131	
Millstones.....	3	780					
Mineral pigments.....	863	4,230		290		244	
Phosphate rock.....	28	121,273	146	39,961	657,284	10,871	
Pyrite.....		31,661		311		388	
Silica.....	30	2,689				114	1,428
Sulphur.....		308	20		1,087,736	740	
Talc and soapstone.....	426	12,976	218	447		257	395
Nonproducing enterprises.....	2	64,088	5,999	17,953	209,708	13,343	647,405
FUELS:							
Coal.....		1,691				30	
Petroleum and natural gas.....		6,222		1,256	181,037	2,357	624,113
METALS:							
Iron.....		32,498	5,987	350		83	
Gold, silver, copper, lead or zinc.....	2	20,727	12	15,470	26,880	10,775	23,292
MISCELLANEOUS, all other.....		2,950		877	1,691	98	

1 89,354 M cubic feet reported for the iron-ore industry was manufactured gas.

TABLE 8.—FUEL USED, ALL MINING ENTERPRISES, BY STATES: 1919.

STATE.	COAL.		Coke (tons, 2,000 pounds).	Wood (cords).	Fuel oil (barrels).	Gasoline and other volatile oils (barrels).	Natural gas (1,000 cu. ft.).
	Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).					
United States.....	8,697,367	16,339,839	59,794	131,803	9,747,151	156,936	<sup>1</sup> 103,432,217
Producing enterprises.....	8,607,365	16,275,751	53,795	113,850	9,537,443	143,593	<sup>1</sup> 102,784,812
Alabama.....		761,268	31,723	1,905	410	1,003	
Arizona.....		84,938	174	1,602	1,279,173	6,706	
Arkansas.....		74,238		3,020	833	667	323,057
California.....	125	1,027	1,205	8,241	2,264,670	10,301	19,981,849
Colorado.....	112	409,278	110	1,109	4,588	1,084	6,820
Connecticut.....	78	11,691		335			118
Delaware.....		2,643					34
District of Columbia.....							77
Florida.....	100	32,688	146	44,567	787,431	11,619	
Georgia.....		55,354		6,442	397	822	
Idaho.....		15,260	84	3,891	726	723	
Illinois.....		2,092,655	400		7,536	4,272	1,809,962
Indiana.....	1,366	780,153	10		678	1,529	329,788
Iowa.....		210,039	465	115	42	1,075	
Kansas.....		212,503		747	694,541	3,972	8,088,328
Kentucky.....		724,385		675	38,148	12,009	751,455
Louisiana and Mississippi.....		2,400			1,141,532	457	13,546,954
Maine.....		9,586		250		236	
Maryland.....	2	67,827		65		686	
Massachusetts.....	69	22,871	50	290	29	57	
Michigan.....	18,891	1,371,023	4,013		2,826	1,570	33,781
Minnesota.....	3,248	726,392	758	477	1,230	2,666	
Missouri.....		488,858		2,936	14,161	2,425	21,898
Montana.....		325,737	4,874	5,683	951	1,459	671,621
Nebraska.....		1,834				44	
Nevada.....		113,708	376	2,977	64,363	8,476	
New Hampshire.....	53	5,027		420	88	162	
New Jersey.....	57,267	62,486	151	21	18,880	618	
New Mexico.....		232,846	62	337	50,784	1,904	
New York.....	52,356	82,852	1,123	250	430	1,084	1,007,257
North Carolina.....		41,234	5	960	16	277	
North Dakota.....		16,437				451	
Ohio.....	100	862,717	788	139	1,385	4,946	5,439,260
Oklahoma.....		280,339		110	237,730	21,011	16,338,700
Oregon.....		5,280		3,638	6,548	662	
Pennsylvania.....	8,561,045	3,574,674	219	2,376	1,698	13,801	<sup>1</sup> 10,047,604
Rhode Island.....	118	6,316		6		187	
South Carolina.....		18,949		3,113		86	
South Dakota.....		42,111	236	2,719	2,748	327	
Tennessee.....		298,649	29	5,831	1,240	1,017	1,350
Texas.....		66,743	5,170	2,176	2,739,860	13,287	10,396,846
Utah.....	28	197,366	1,123	39	2,276	1,487	
Vermont.....	2,328	24,886	218	261		67	
Virginia.....	64	209,851	170	1,386	706	499	
Washington.....		197,152		2,747	47,095	2,110	
West Virginia.....		1,157,991		50	524	2,541	12,149,549
Wisconsin.....	15	50,600	99	1,778	1,950	929	
Wyoming.....		241,069	14	6	119,210	802	1,743,724
Nonproducing enterprises.....	2	64,088	5,999	17,953	208,708	13,343	647,405
Arizona.....		292		949	22,117	7,029	
California.....	2	61	2	3,465	3,297	1,602	110,854
Colorado.....		4,023		1,092	750	132	
Idaho.....		2,035	6	3,426	803	376	
Kansas.....		1,025			450	56	9,694
Kentucky.....		716				8	690
Louisiana and Mississippi.....				1,256	3,045		5,250
Michigan.....		6,346	4			57	
Minnesota.....		12,358				50	
Montana.....		4,202		1,082	560	349	
Nevada.....		154		363	3,080	1,544	
New Mexico.....		2,720		474	65	178	
Ohio.....		474					2,200
Oklahoma.....		2,200			2,186		54,098
Oregon.....				320		48	
Pennsylvania.....		178				10	
South Dakota.....		1,000		1,390			
Texas.....		1,529			159,791	800	377,869
Utah.....		1,427		295	1,850	249	
Virginia.....		870			158	50	
Washington.....		516		362		310	5,000
West Virginia.....							1,350
Wisconsin.....		8,918				102	
Wyoming.....		1,516		350		124	80,400
All other <sup>2</sup> .....		11,528	5,987	2,175	12,526	119	

<sup>1</sup> Includes 89,354 M cubic feet of manufactured gas.<sup>2</sup> Includes Alabama, Arkansas, Connecticut, Florida, Georgia, Illinois, Iowa, Maine, Missouri, New York, North Carolina, and Tennessee.



TABLE 9.—NUMBER OF ENTERPRISES

[illegible]

